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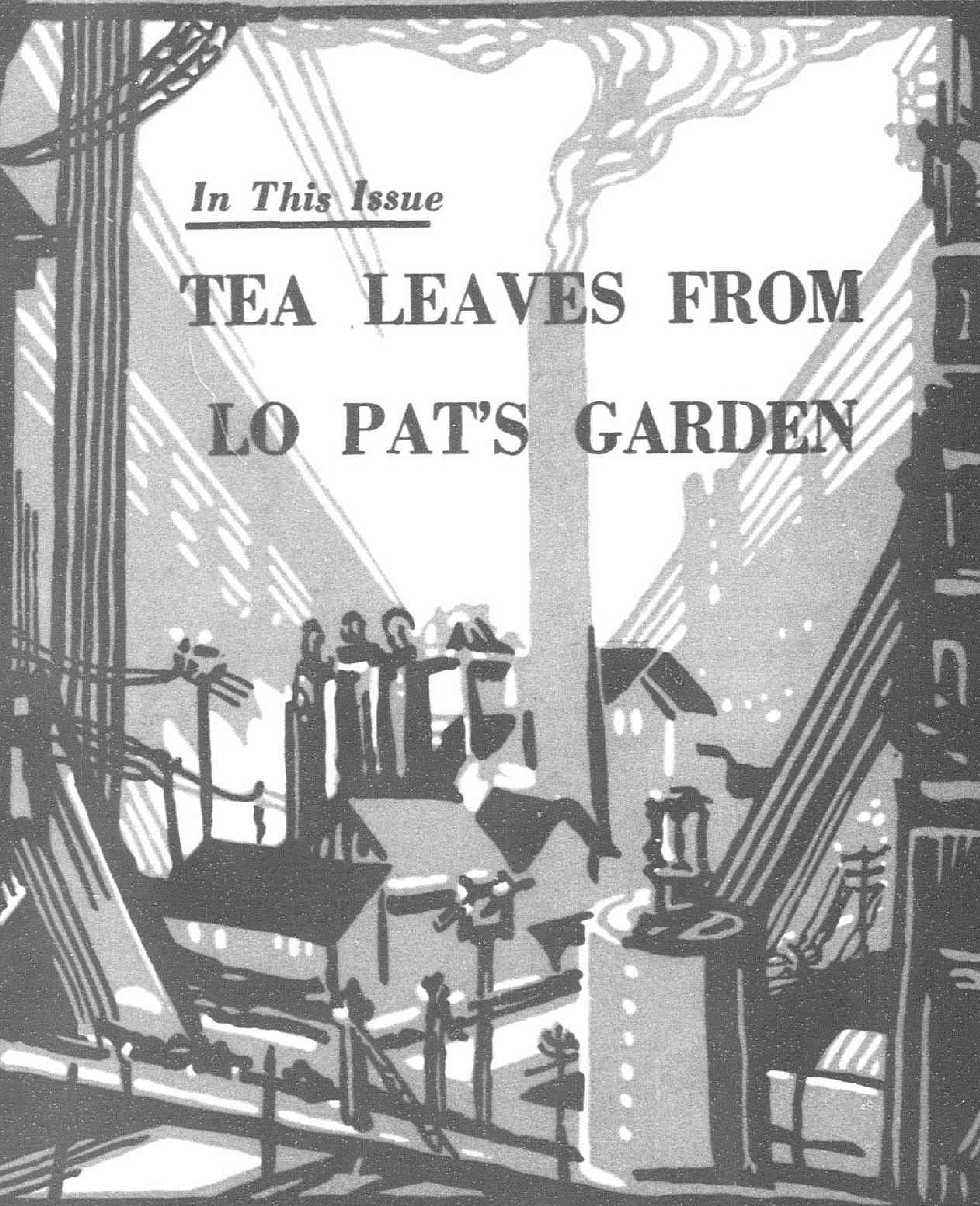

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TEA LEAVES FROM LO PAT'S GARDEN

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遠東時報

ANSWERING AMBASSADOR GREW

REORGANIZATION OF THE CENTRAL GOVERNMENT OF CHINA

WHAT'S TO BE DONE IN CHINA ?

Vol. XXXVI

JANUARY, 1940

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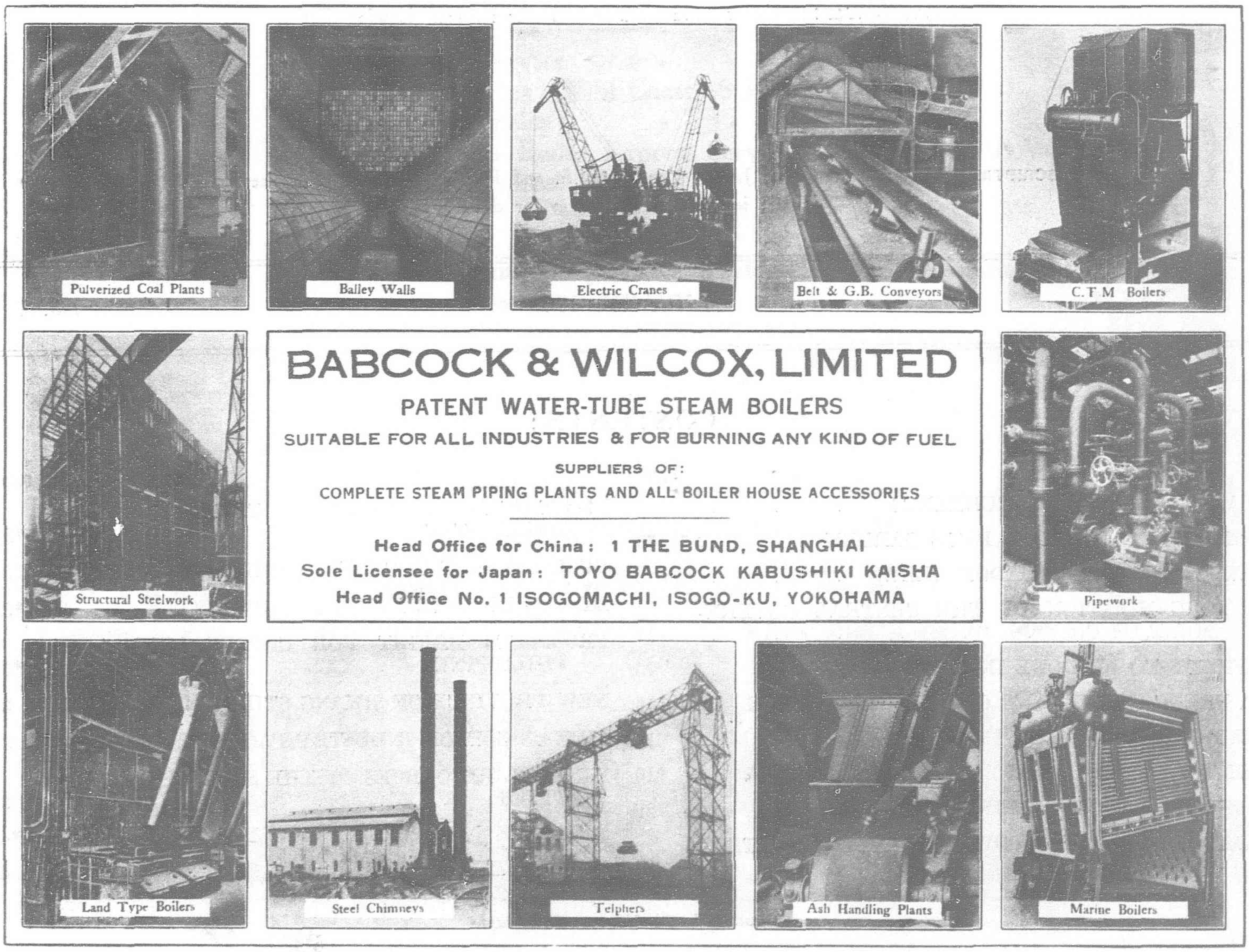

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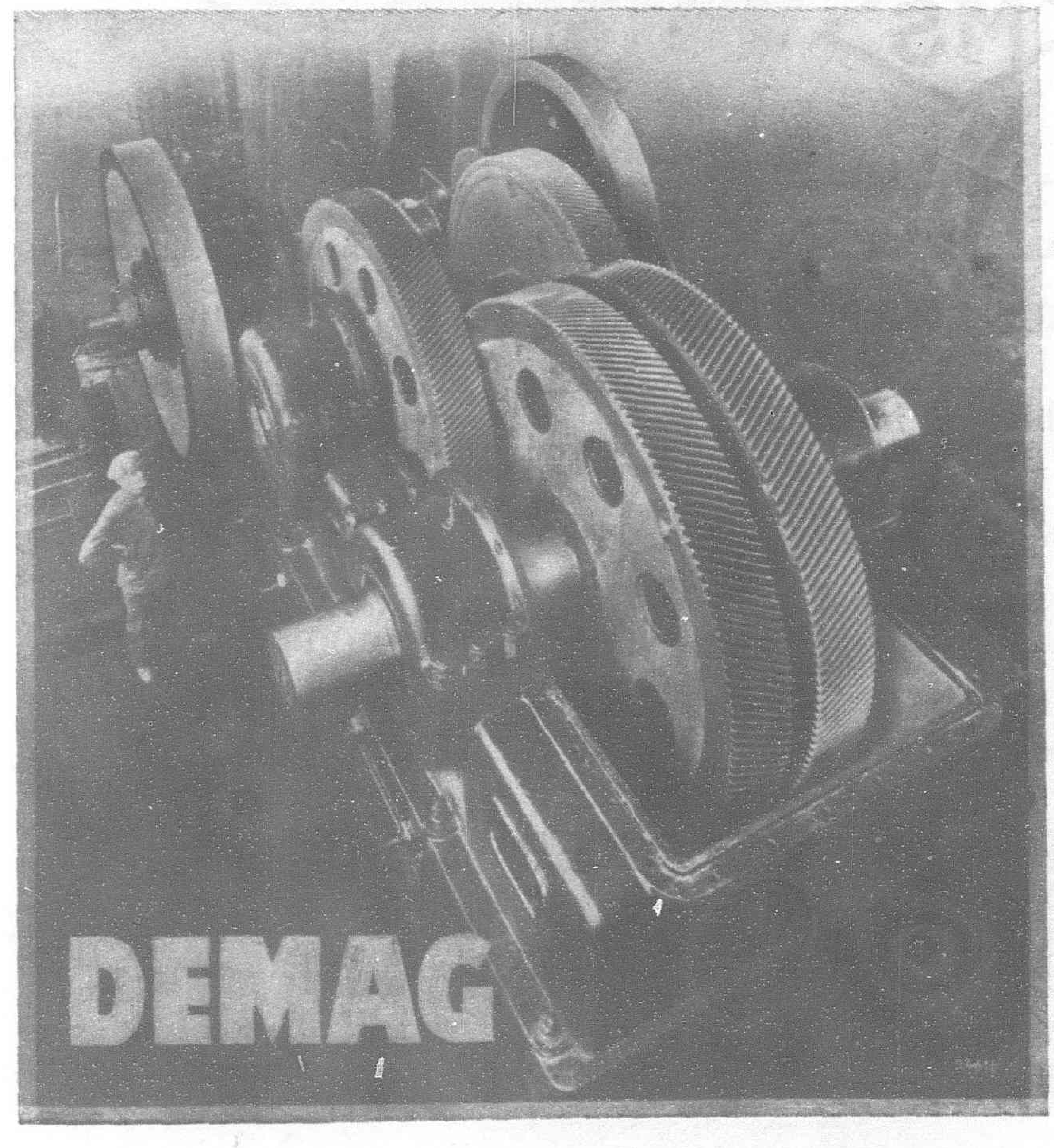

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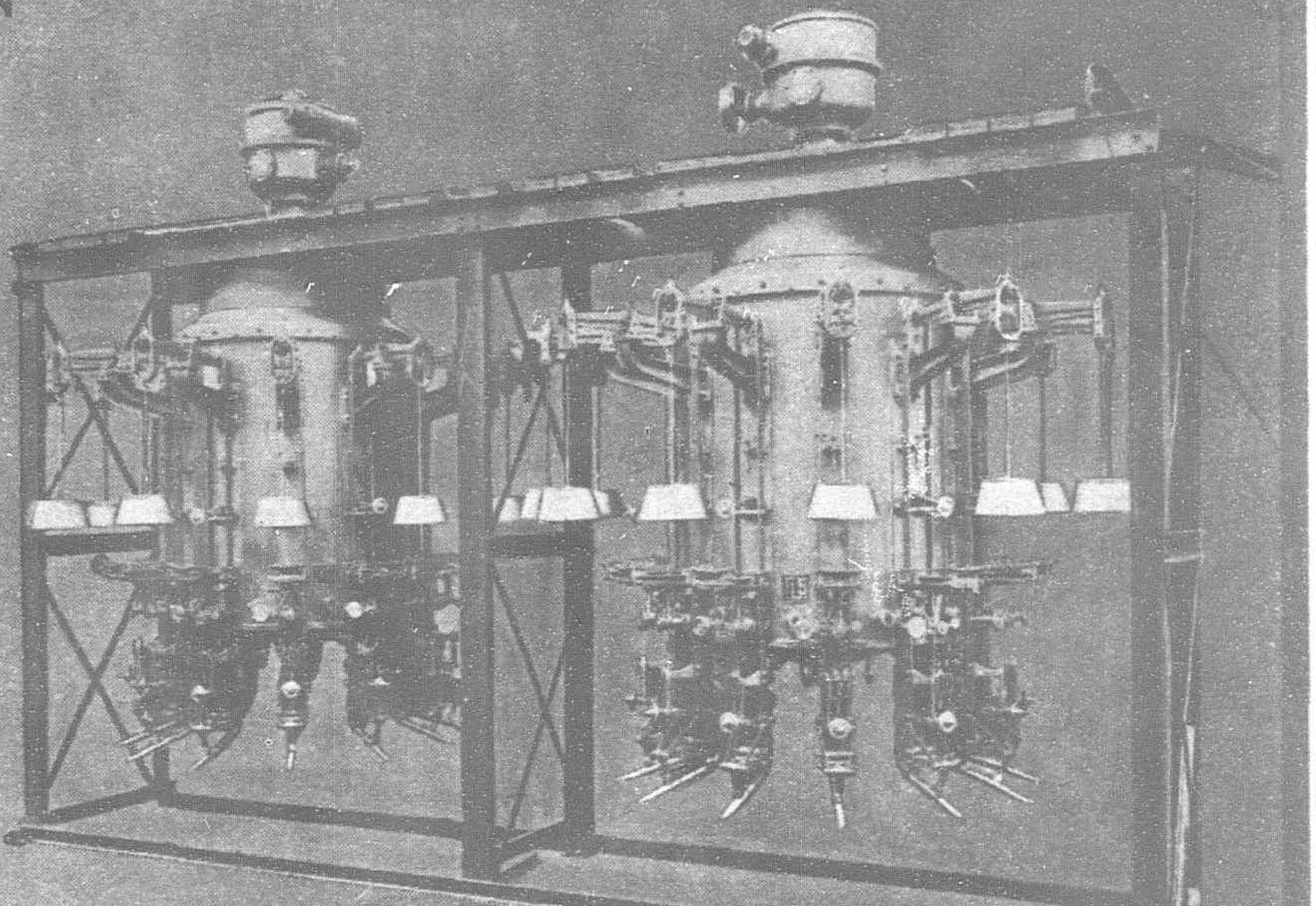

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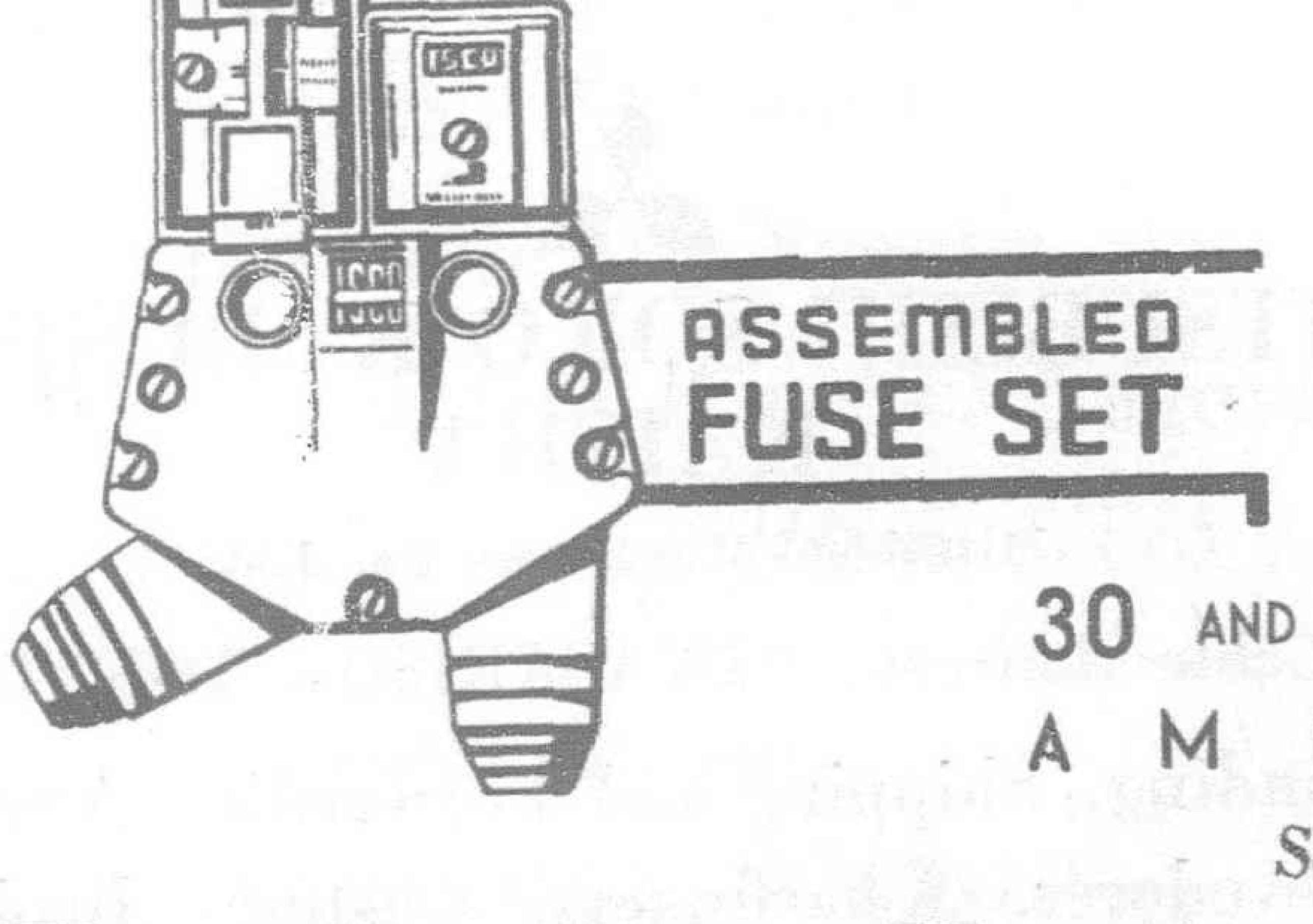

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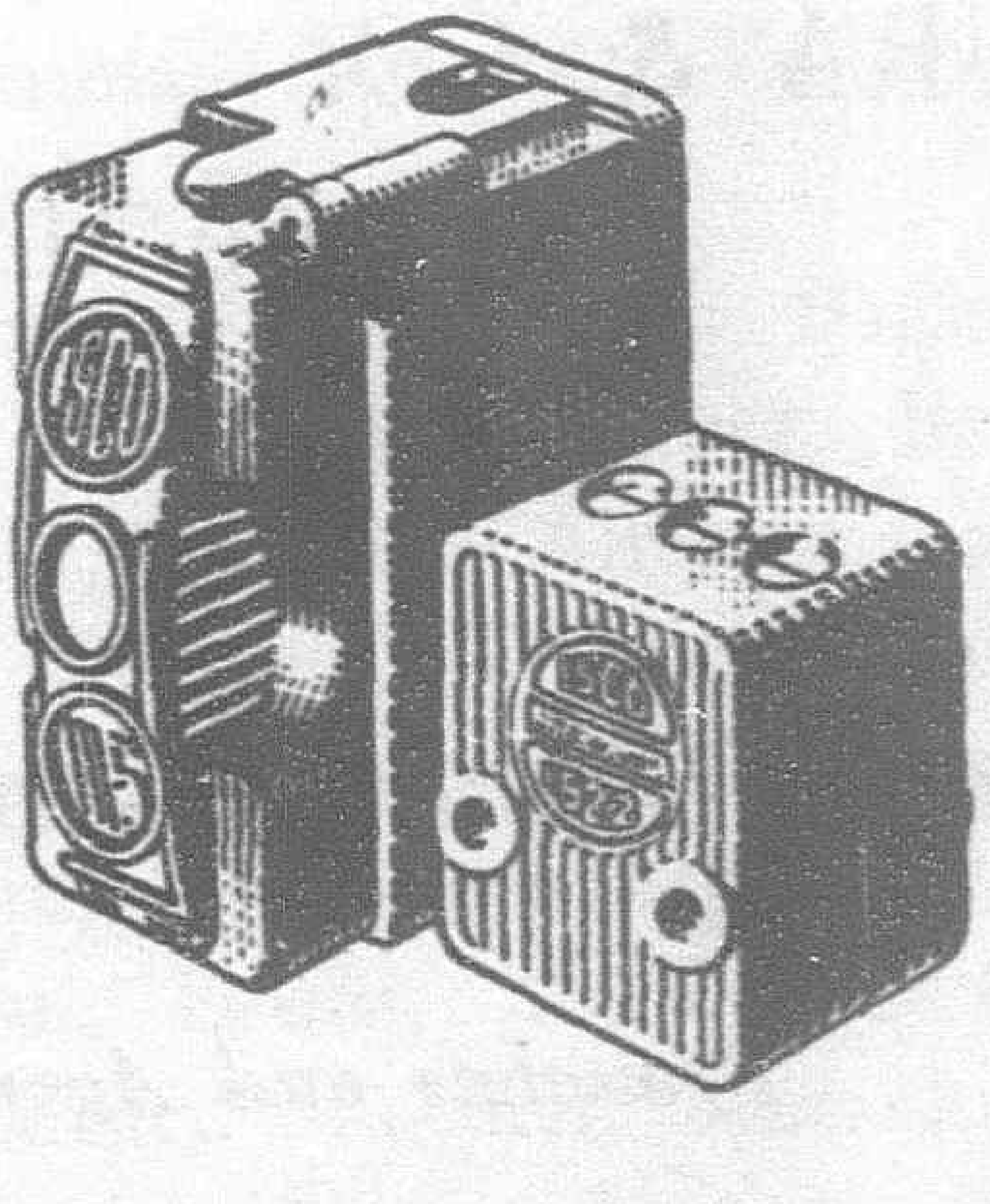

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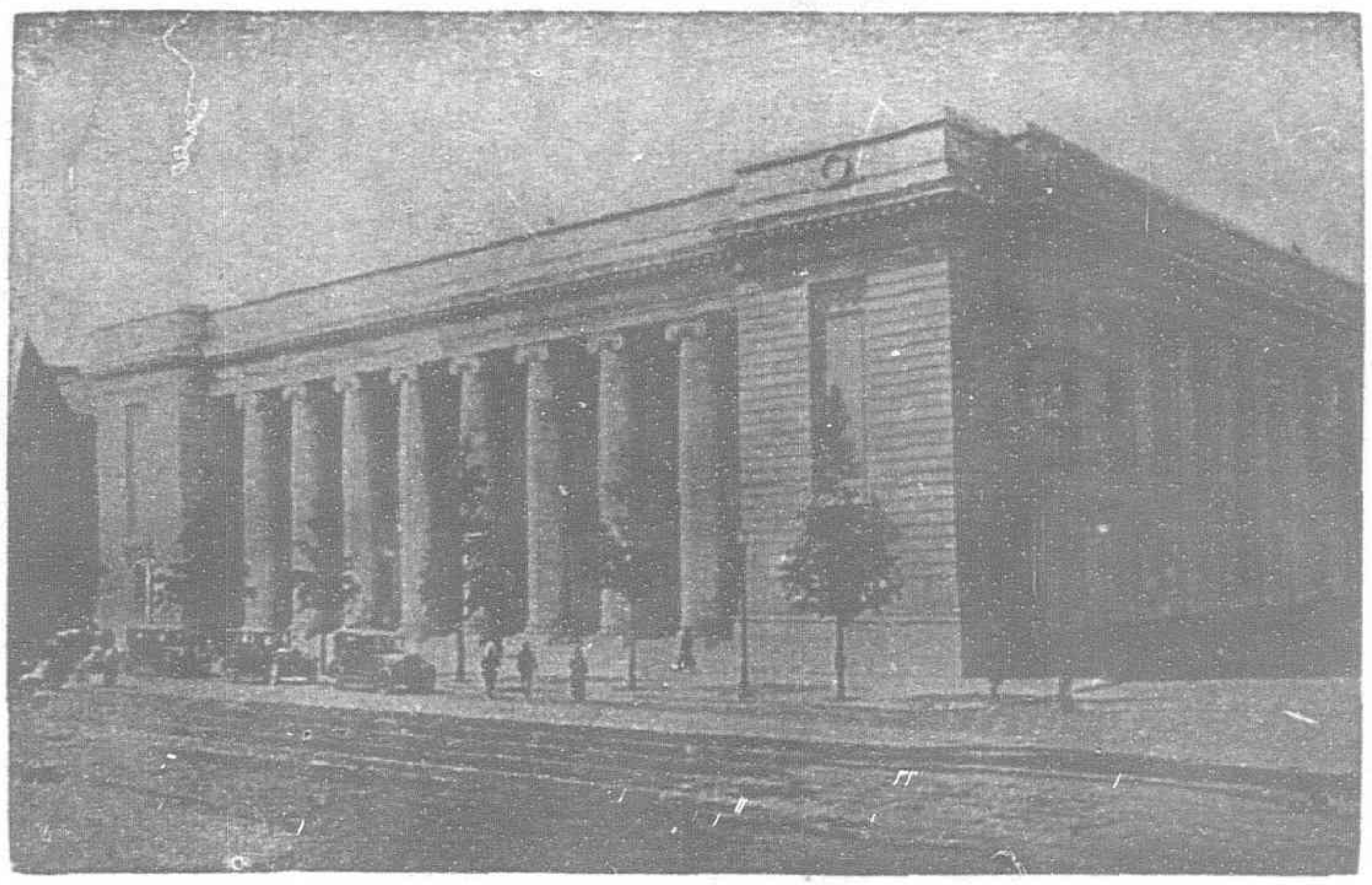

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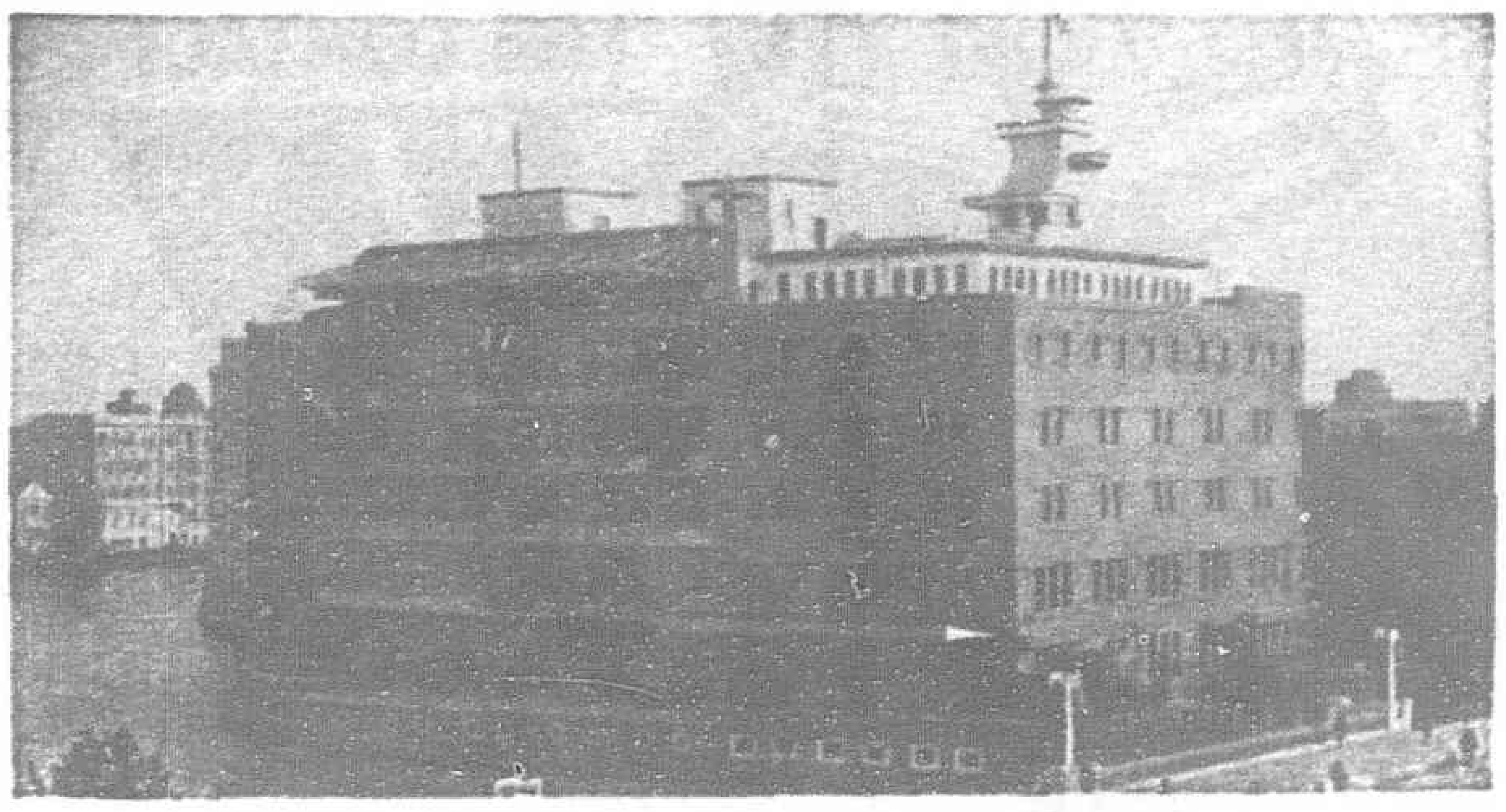

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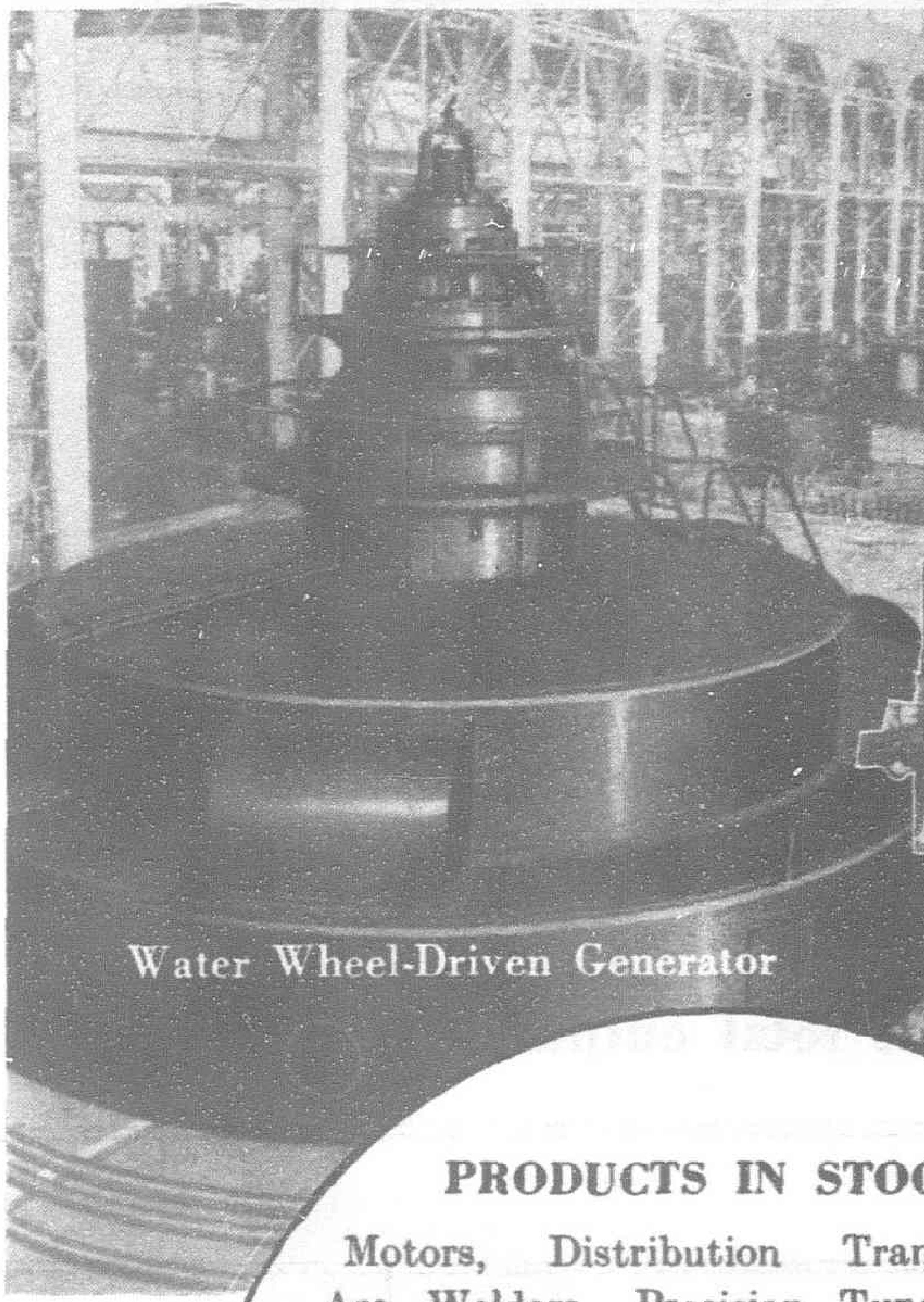

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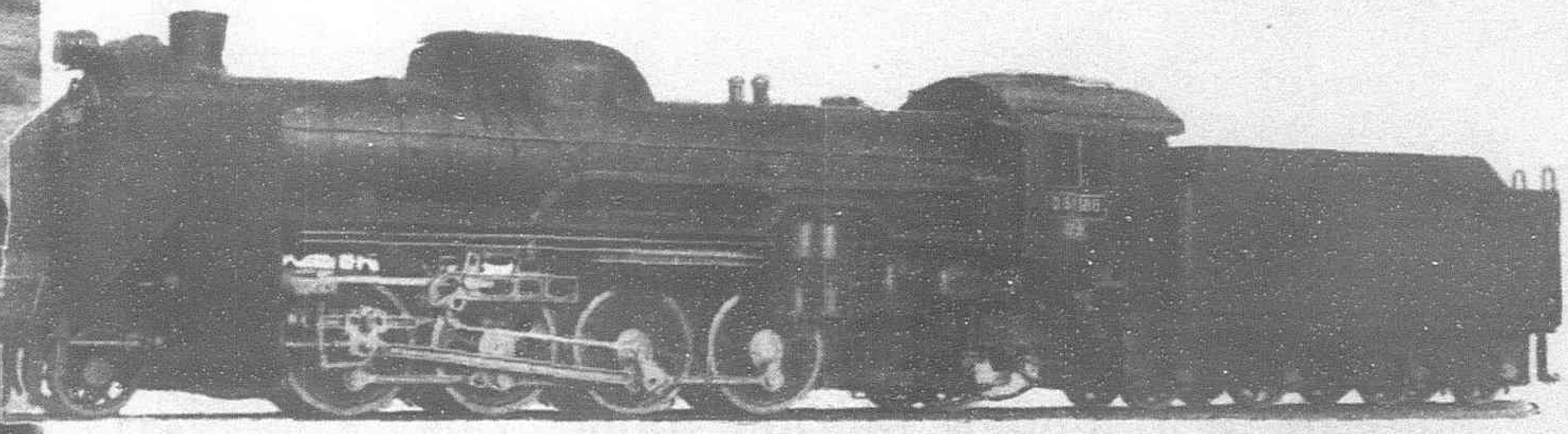

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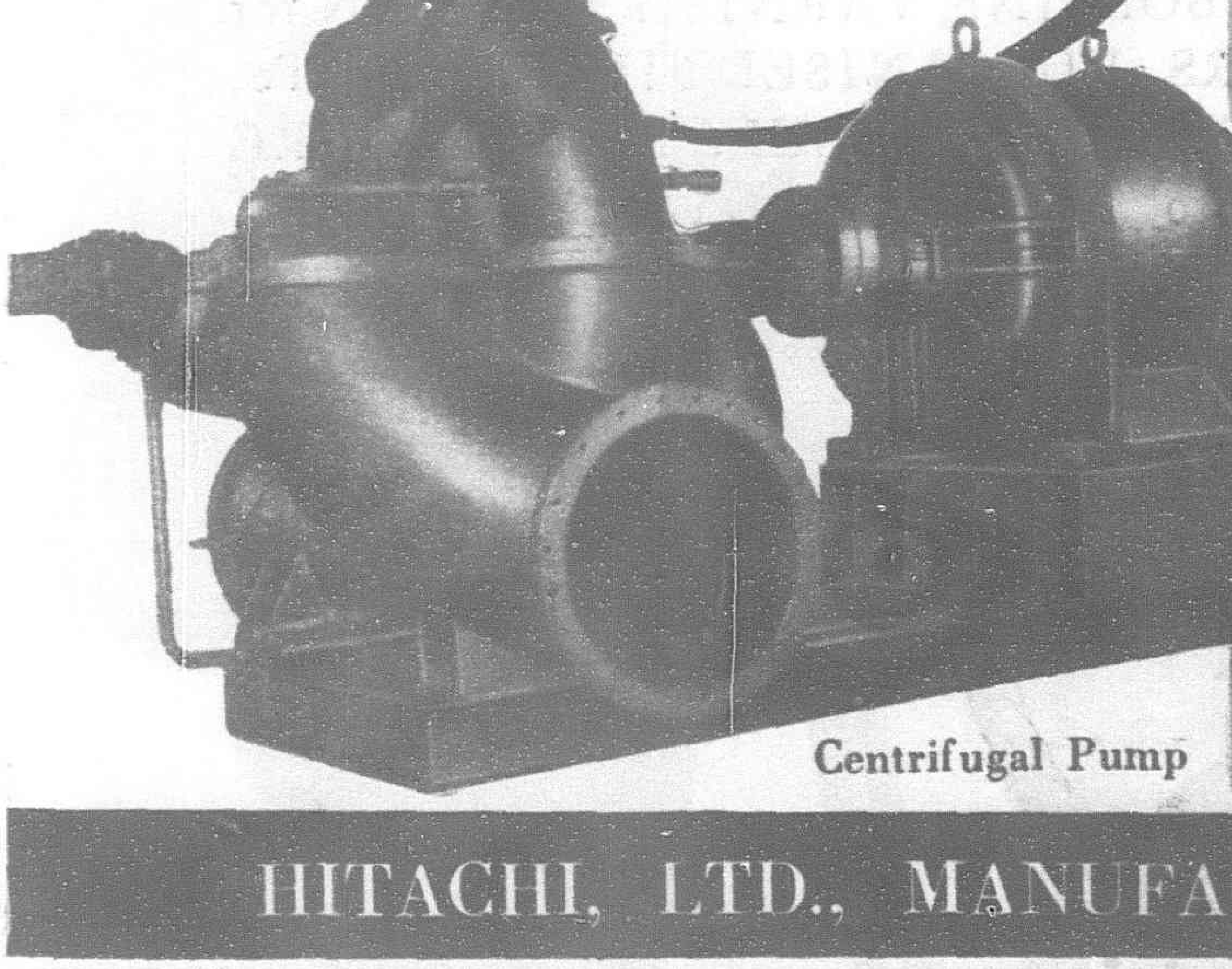

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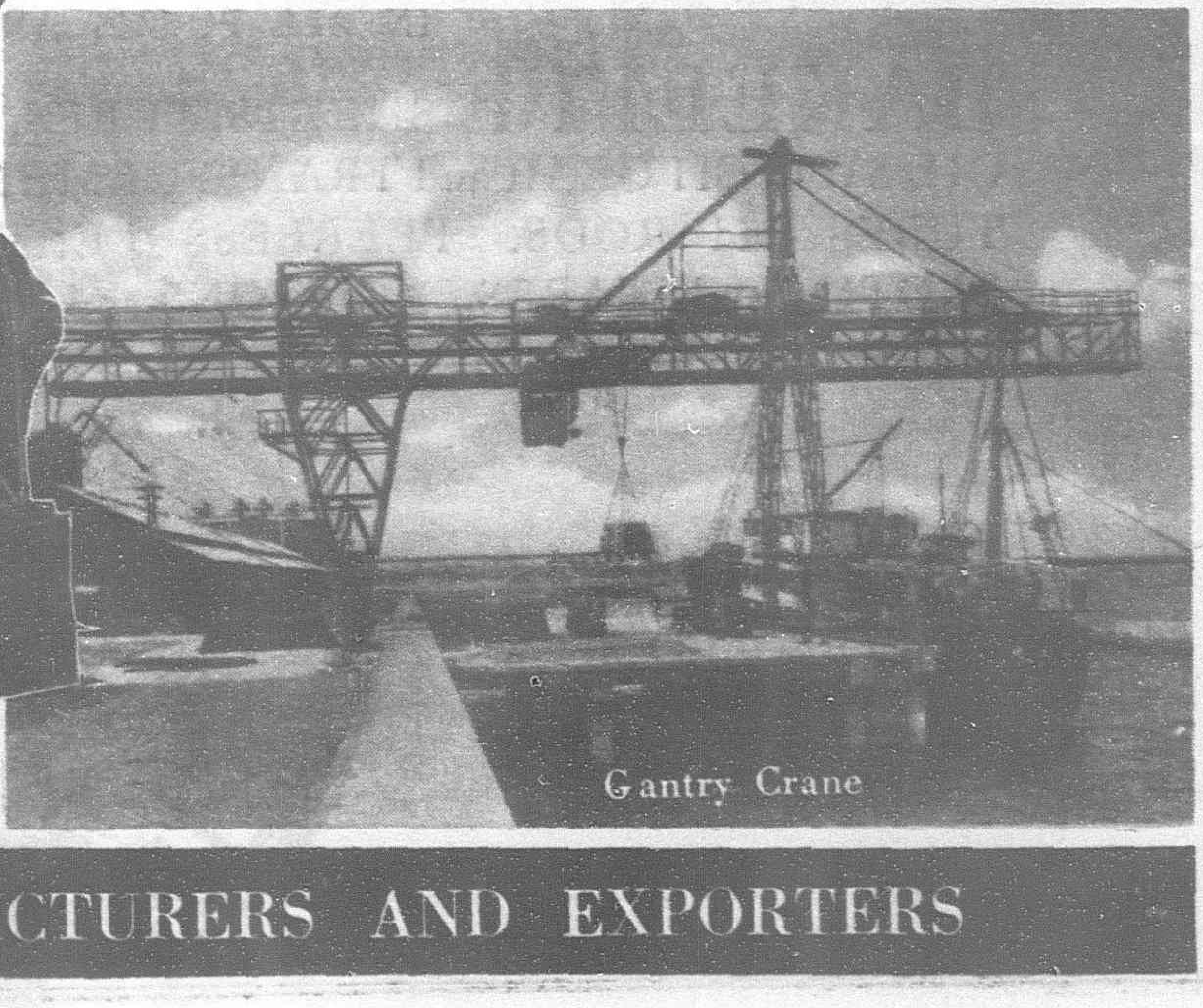

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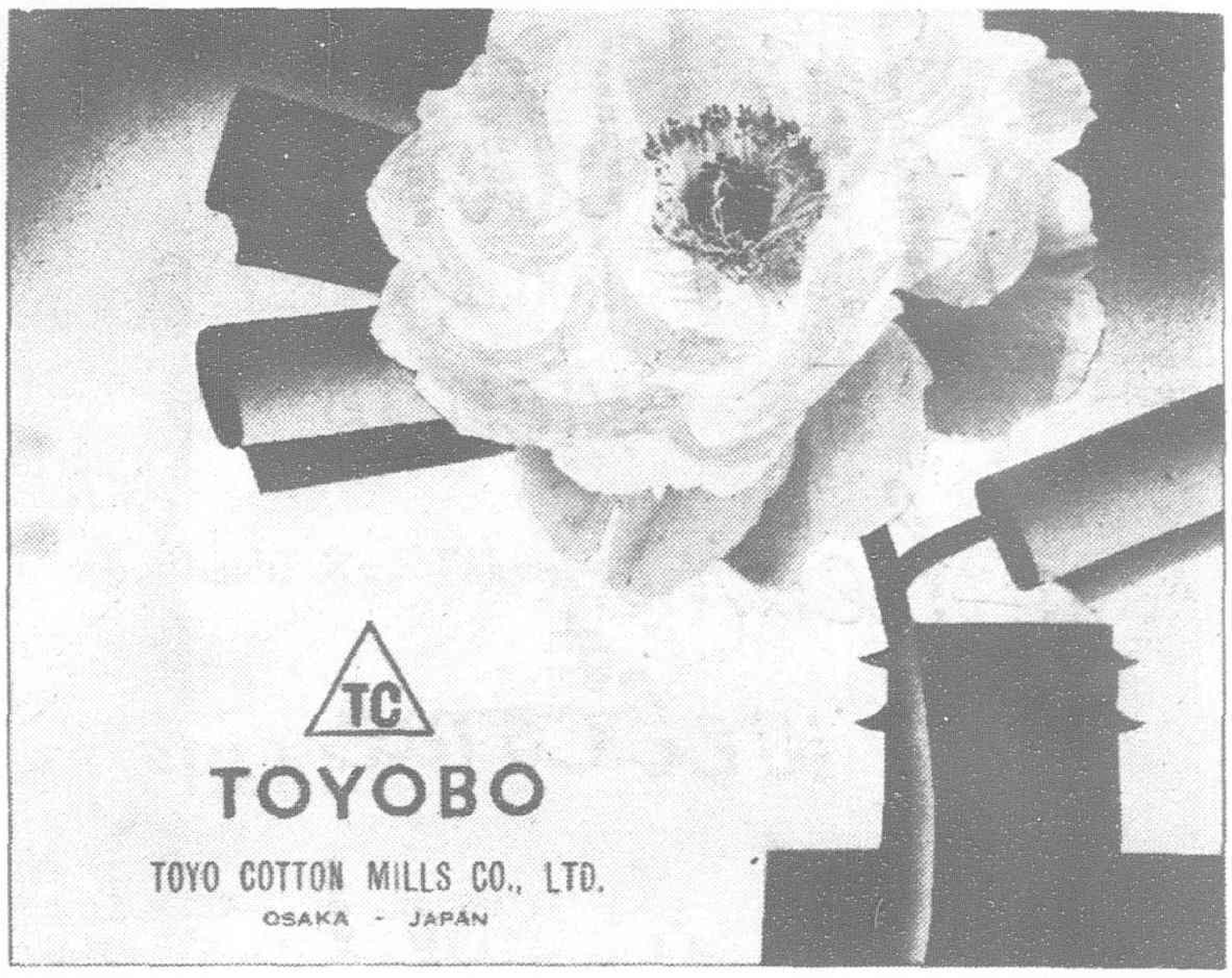

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Head Office and Works: Niihama, Nippon

The Sumitomo Chemical Co., Ltd.
Subscribed Capital: Yen 40,000,000
Head Office: Osaka, Nippon *Works:* Niihama, Nippon

The Sumitomo Metal Industries of Manchou, Ltd.
Subscribed Capital: Yen 10,000,000
Head Office: Fengtien, Manchoukuo
Works: Fengtien and Anshan, Manchoukuo *Branch:* Osaka, Nippon

The Sumitomo Mining Company, Limited
Paid-up Capital: Yen 27,000,000
Head Office: Osaka, Nippon *Branches:* Otaru & Wakamatsu, Nippon

The Sumitomo Warehouse Company, Limited
Paid-up Capital: Yen 15,000,000
Head Office: Osaka, Nippon
Branches: Osaka, Kobe and Tokyo, Nippon

The Sumitomo Trust Company, Limited
Subscribed Capital: Yen 20,000,000
Head Office: Osaka, Nippon
Branches: Tokyo and Fukuoka, Nippon

The Sumitomo Life Insurance Company, Limited
Subscribed Capital: Yen 1,500,000
Head Office: Osaka, Nippon *Branches:* Osaka, Tokyo, etc.

ESTABLISHED 1895 INCORPORATED 1912

THE SUMITOMO BANK, LTD.

HEAD OFFICE: OSAKA, NIPPON

Subscribed Capital:—Yen 70,000,000 Paid-up Capital:—Yen 50,000,000 Reserve Funds:—Yen 48,340,000

DIRECTORS:

N. YATSUSHIRO	Chairman, Board of Directors
K. OHDAIRA	Chief Managing Director
H. OKAHASHI	Managing Director
K. OHSHIMA	,, ,,
M. SOGAME	,, ,,
BARON K. SUMITOMO	Director
K. HORI	Director
M. OGURA	,,
S. IMAMURA	,,
N. SHIBUYA	,,
T. NODA	,,
S. HARADA	,,

AUDITORS:

Y. HARA, *Executive Auditor* S. UENO, *Auditor* S. YOSHIDA, *Auditor* T. SHIBATA, *Auditor*

HOME OFFICES:

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Fukuoka
Hiroshima
Kobe
Kokura
Kumamoto
Kure
Kurume
Kyoto
Moji
Nagoya
Niihama
Okayama
Onomichi
Osaka
Shimonoseki
Tokyo
Wakamatsu
Wakayama
Yanai
Yokohama

OFFICES IN PACIFIC LINERS:

M.S. "Asama Maru," M.S. "Kamakura Maru,"
M.S. "Tatsuta Maru"

FOREIGN OFFICES:

London	England
New York	U.S.A.
San Francisco	,,
Los Angeles	U.S.A.
Shanghai	China
Dairen	Kwantung

AFFILIATED BANKS:

The Sumitomo Bank of Seattle, Seattle, Wash., U. S. A.
The Sumitomo Bank of California, Sacramento, Cal., U. S. A.
The Sumitomo Bank of Hawaii, Honolulu, T.H.

CORRESPONDENTS:

In all important places at home and abroad.

GENERAL BANKING AND FOREIGN EXCHANGE BUSINESS TRANSACTED

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Head Office : DAIRREN *Cable Address :* " MANTETSU " *Codes :* **ABC 5th Ed., Al, Lieber's & Bentley's**

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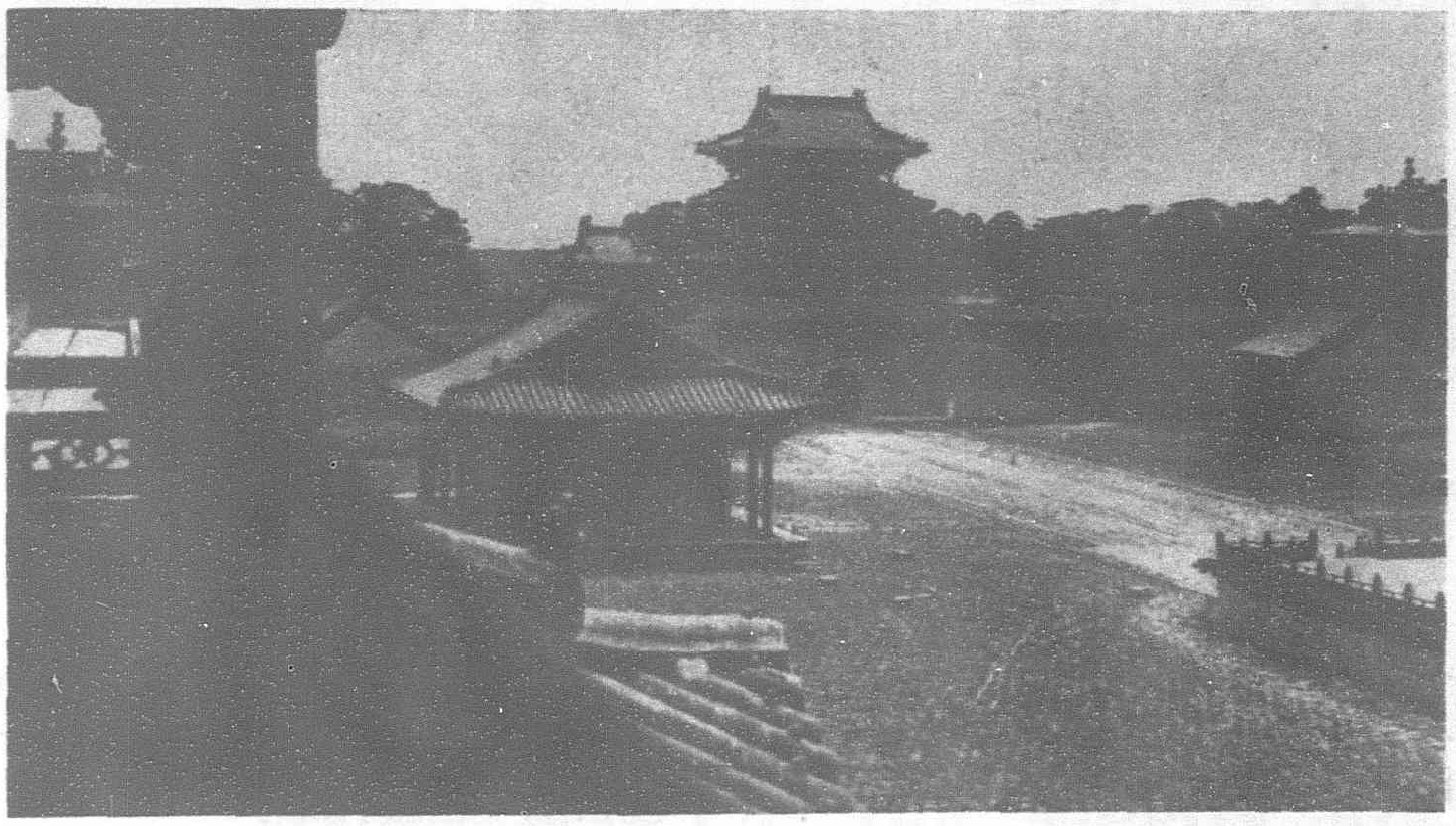
The fastest and most comfortable trains in the Far East carry you to the much-talked-of Cross-Road of East Asia "Manchoukuo."



North Mausoleum, Mukden

YAMATO HOTELS

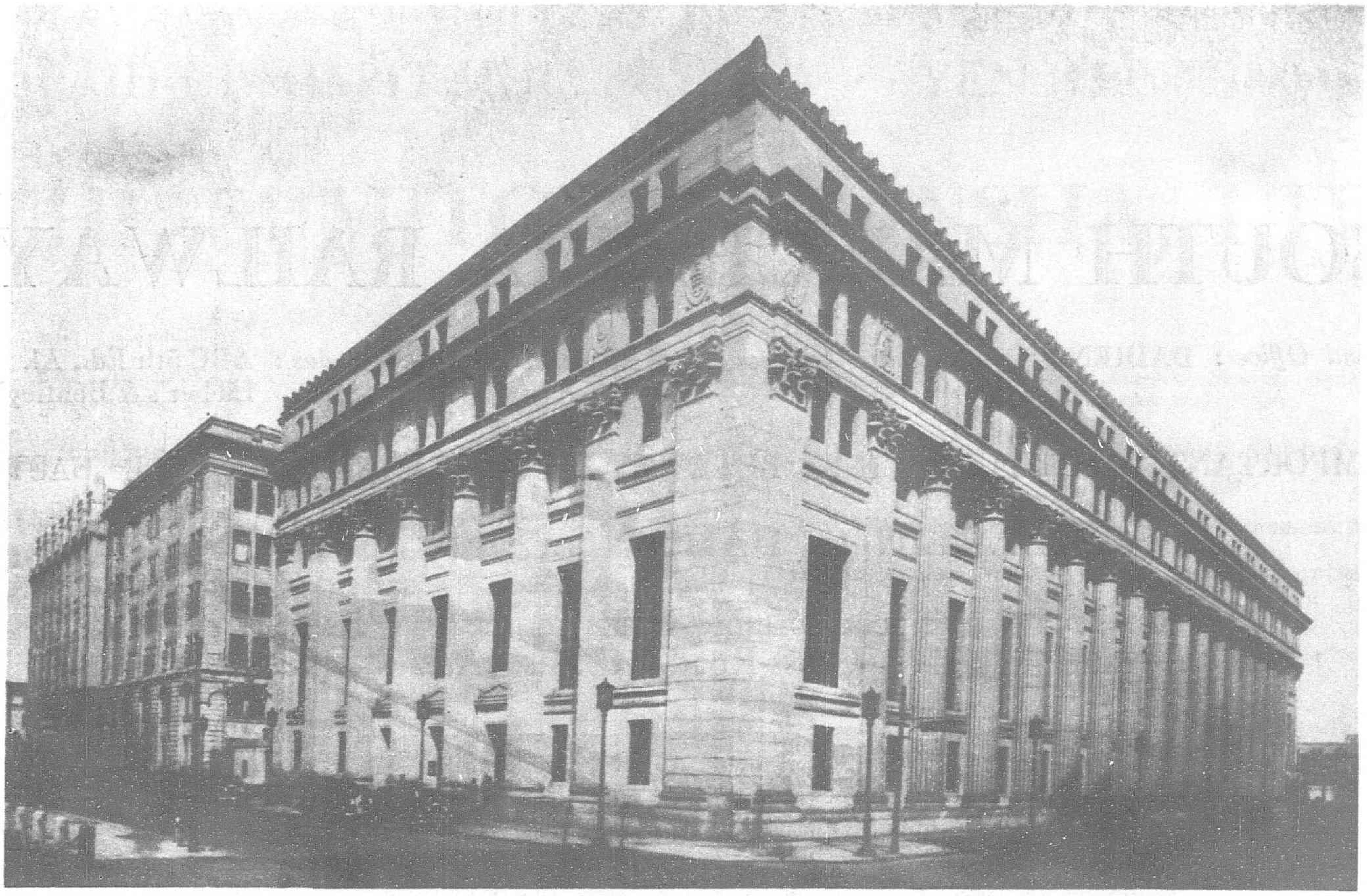
at Dairen, Hoshigaura (Star Beach), Ryojun (Port Arthur), Mukden, and Hsinking are directly managed by the South Manchuria Railway Co.

TICKET AGENTS

Tickets are issued by, and Pictorial Guide Books and Information may be obtained, at the following offices:

Messrs. The Japan Tourist Bureau; Thos. Cook and Son; The American Express Company; The International Sleeping Car Company ("Wagonlits"); The Nordisk Resebureau.

S.M.R. Branch Offices { Tokyo, Osaka, Shimonoseki, Shanghai, Peiping, Mukden, Hsinking, Kirin, Harbin, Paris, New York, etc.



HEADQUARTERS OF THE HOUSE OF MITSUI

MITSUI & CO., LTD.

(Mitsui Bussan Kaisha, Ltd.)

Capital Y150,000,000 **Reserve Funds Y75,000,000**

March, 1939

GENERAL EXPORTERS AND IMPORTERS, INSURANCE AND SHIP AGENTS, GENERAL CONTRACTORS, SHIP-OWNERS, SAWMILL OWNERS AND WHARFINGERS

Head Office: TOKYO, JAPAN

Branch Offices and Representatives:

Home.—Otaru, Hakodate, Niigata, Kawasaki, Yokohama, Yokosuka, Shimizu, Nagoya, Osaka, Maizuru, Kobe, Okayama, Hiroshima, Kure, Moji, Wakamatsu, Karatsu, Miike, Nagasaki, Sasebo, Taihoku, Keelung, Takao, Keijo, Heijo, Kunsan, Seishin, etc.

Abroad.—Dairen, Antung, Chinchow, Newchwang (Yingkow), Mukden, Hsinking, Harbin, Tsitsihar, Botanko, Tomon, Tientsin, Peking, Tsingtao, Chefoo, Tsinan, Shanghai, Nanking, Hankow, Amoy, Canton, Hongkong, Saigon, Manila, Cebu, Davao, Iloilo, Sydney, Melbourne, Singapore, Medan, Palembang, Bangkok, Sourabaya, Semarang, Batavia, Calcutta, Rangoon, Bombay, Karachi, Madras, Teheran, London, Alexandria, Casablanca, New York, San Francisco, and Seattle.

Correspondents:

Berlin and Hamburg: Deutsche Mitsui Bussan Aktiengesellschaft. Paris and Lyons: Societe Anonyme Francaise Bussan. Cape Town and Johannesburg: Mitsui Bussan-South Africa-(Pty.), Ltd. Buenos Aires: Nambei, Campania de Importacion y Exportacion Sociedad Anonima. Wellington, New Zealand: Mitsui & Co. (New Zealand), Ltd. Rio de Janeiro: M. Imaki; Mexico: M. Suzuki; Los Angeles: M. Hasegawa; Haiphong and Hongay: K. Mawatari; Rome: K. Rinoie; Istanbul: K. Kurata; Santiago, Chile: M. Shirakata.

THE MITSUI BANK, LTD.

Capital Subscribed - - - - Y100,000,000
Capital Paid-up - - - - - Y60,000,000
Reserve Funds - - - - - Y65,300,000

Head Office:

No. 1 Muromachi 2-Chome, Nihonbashi Ku, Tokyo

Home Branches:

Fukuoka, Hiroshima, Ikebukuro (Tokyo), Kobe, Kyoto, Marunouchi (Tokyo), Meguro (Tokyo), Moji, Nagoya, Nagoya-Kamimaetsu, Nihonbashi (Tokyo), Osaka, Osaka-Dojima, Osaka-Kawaguchi, Osaka-Nishi, Osaka-Semba, Otaru, Shinjuku (Tokyo), Wakamatsu (Kyushu) and Yokohama.

Foreign Branches:

Bombay, Dairen, London, New York, Shanghai and Soerabaya.

London Bankers:

Barclays Bank, Ltd. Midland Bank, Ltd.

New York Bankers:

Chase National Bank
National City Bank of New York

THE BANK OF TAIWAN, LTD.

Established 1899

President : YAKICHI SUITSU
Vice-President : MASAHIKO WADA

Directors :
KENJI YAMAMOTO
HYOTARO MOTOHASHI
TOZO HIRANO

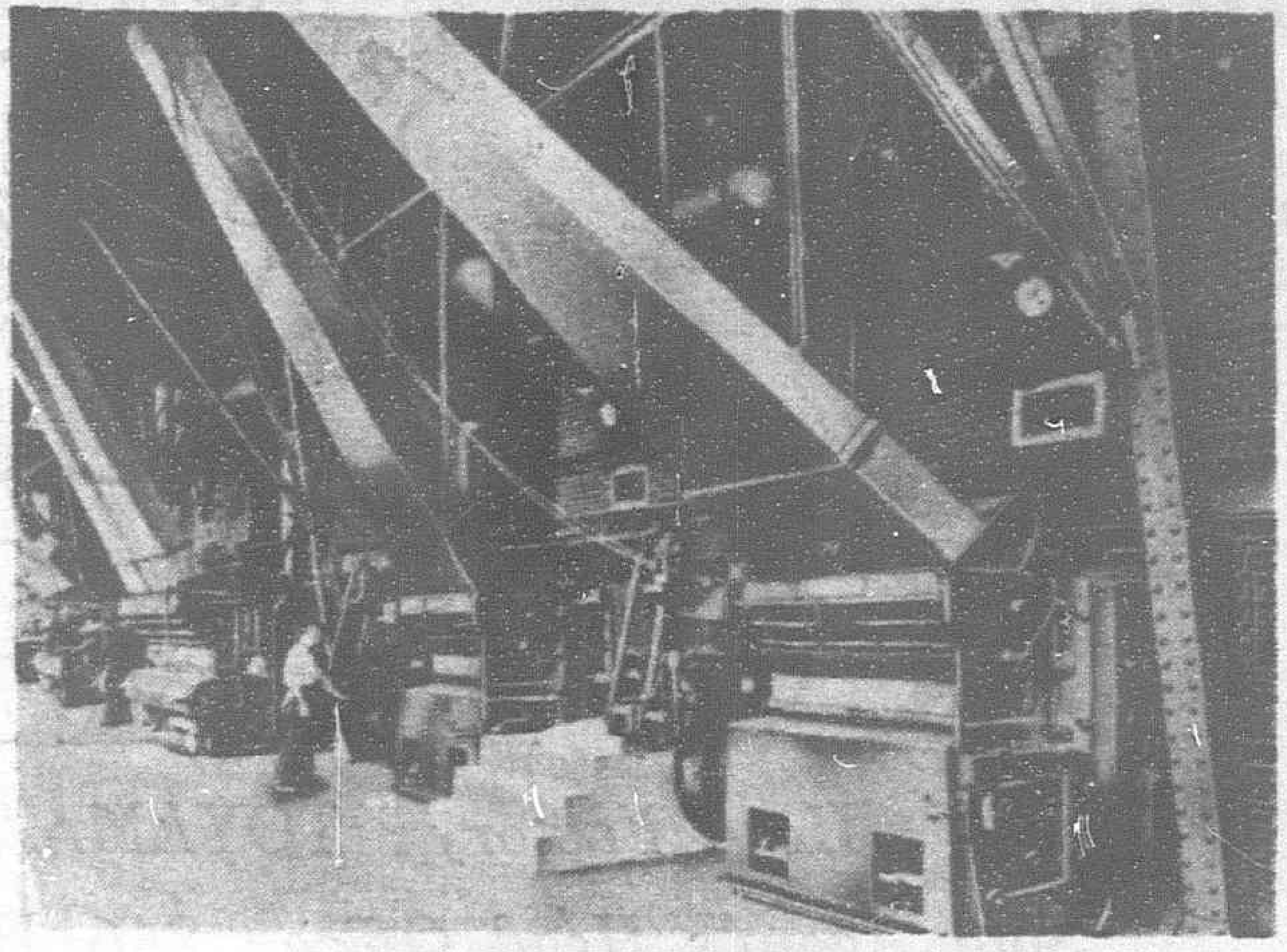
Head Office : Taipeh

Tokyo Branch :
No. 2, 1-chome Marunouchi, Kojimachi Ku
FUMIO NARITA, *Manager*

Branches and Agencies :
Japan : Kobe, Osaka, Tokyo, Yokohama, Giran, Heito, Kagi, Karenko, Keelung, Makong, Nanto, Shinchiku, Shoka, Taichu, Tainan, Taito, Takao, Tamsui, Toen.
Kwantung: Dairen.
China : Amoy, Canton, Foochow, Hankow, Shanghai, Swatow.
Java : Batavia, Semarang, Sourabaya.
Others : Bombay, Hongkong, London, Manila, New York, Singapore.

Correspondents in the principal cities and towns throughout the world.

PATENT WATER TUBE BOILER WITH PATENT K.S.K. STOKER



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Steam, Electric, Gasoline and Diesel Locomotives; Passenger and Freight Cars; Steel Bridges; Structural Work; Steel Sashes and Doors; Water Tube Boilers; Mechanical Stokers; Machine Tools, and Gold Dredgers

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TOKYO AND OSAKA JAPAN

KISYA SEIZO KAISYA
STEAM ENGINEERING AND ROLLING STOCK MFG. CO., LTD.
Head Office : No. 367 Marunouti Bldg., Kozimati Ku, Tokyo
Osaka Works : Simaya-Tyo Konohana Ku, Osaka
Tokyo Works : Minamisuna-mati, Zyoto Ku, Tokyo

THE NIPPON KOGYO GINKO
(The Industrial Bank of Japan, Ltd.)
Established in 1902 by virtue of a Special Enactment of the Imperial Diet

Capital - - - Y200,000,000

HEAD OFFICE :
Marunouchi, TOKYO

Governor : ICHIMATSU HORAI
Vice-Governor : KOICHI KAWAKAMI

Directors :
SHIGERU KOTAKE
RYUZO WATANABE
KENYU FUKUOKA
EIZO UEYAMA

Auditors :
Count YOSHINORI FUTARA
EIZABURO SUGANO
KEIKICHI KATAOKA

BRANCHES :
TOKYO, OSAKA, KOBE, NAGOYA, FUKUOKA, FUKUSHIMA, TOYAMA, HIROSHIMA, SAPPORO

Correspondents : in the principal cities at home and in London, New York, San Francisco and Paris

Business Transacted :
(1) Loans on the security of public bonds, debentures and shares, estates (Zaidan), specified land and buildings.
(2) Subscription and underwriting public bonds or debentures.
(3) Deposits and safe custody of valuables.
(4) Trust company busi[illegible]
(5) Discounting of bills
(6) Foreign exchange business.
(7) Other banking business sanctioned by the Finance Minister in accordance with Law or Ordinance.

TRADE "MOHAN" MARK

KODAI YOKO

Head Factory : TOYAMA *Branch Factory :* TAKATA

Sole Agent's Head Office : 246 HAMILTON HOUSE, SHANGHAI, CHINA

Cable Address :
" KINUKODAI "
Telephone : 12660

Codes Used :
Schofield's 3-Letter Code
Oriental 3-Letter Code
Bentley's and Private

Manufacturers of :

Silk and Rayon Piece Goods, Silk and Rayon Goods, Cotton Piece Goods, Cotton Goods, Woollen Piece Goods, and all Japanese Textiles

Branch Offices :
KOBE, CANTON, TIENTSIN, MONTEVIDEO AND BUENOS AIRES

JAPAN-SINGAPORE LINE

I.S.K.

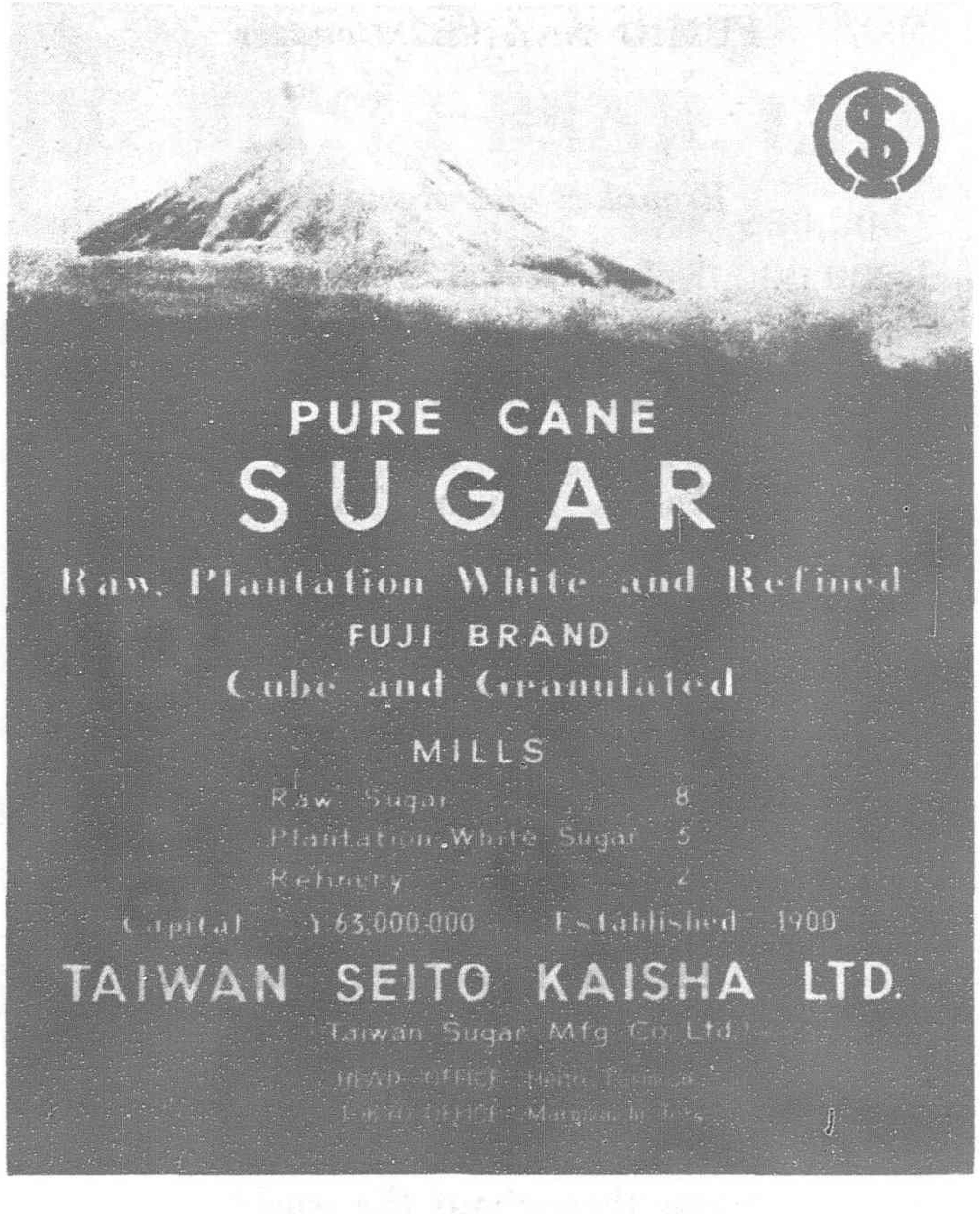
ISHIHARA SANGYO KAIUN KAISHA, LTD.

Boston Maru - - - - -	8,750 tons d/w
Havre Maru - - - - -	8,750 ,, ,,
Malta Maru - - - - -	8,750 ,, ,,
Milan Maru - - - - -	8,750 ,, ,,

Head Office : KOBE, JAPAN
Cable Address : "KOZAN" KOBE

Branches :

OSAKA - - - - Daido Bldg., Tosabori 1-chome
NAGOYA - - - Nippon Chohei Bldg., Miyuki-honmachi
YOKOHAMA - - Ōtamachi 4-chome, Kaka Ku
TOKYO - - - - Bldg. No. 13, Marunouchi
MOJI - - - - - Nishi Kaigan-dori 2-chome
SINGAPORE - - Borsumij Bldg.



PURE CANE
SUGAR
Raw, Plantation White and Refined
FUJI BRAND
Cube and Granulated

MILLS
Raw Sugar 8
Plantation White Sugar 5
Refinery 2

Capital ¥63,000,000 Established 1900

TAIWAN SEITO KAISHA LTD.
(Taiwan Sugar Mfg. Co. Ltd.)
HEAD OFFICE: [illegible]
TOKYO OFFICE: [illegible]

Hongkong and Shanghai Banking Corporation

(Incorporated in the Colony of Hongkong. The liability of Members is limited to the extent and in manner prescribed by Ordinance No. 6 of 1929 of the Colony)

Capital: Authorised Capital .. HK $50,000,000
Issued and fully paid-up.. HK $20,000,000

Reserve Funds: Hongkong Currency Reserve Fund HK $10,000,000
Sterling Reserve Fund .. .. £ 6,500,000
Reserve Liability of Proprietors .. HK $20,000,000

Board of Directors

Hon. Mr. A. L. SHIELDS, *Chairman*
H. V. WILKINSON, Esq. *Deputy Chairman*
J. K. BOUSFIELD, Esq.
A. H. COMPTON, Esq.
Hon. Mr. S. H. DODWELL
D. F. LANDALE, Esq.
G. MISKIN, Esq.
K. S. MORRISON, Esq.
Hon. Mr. T. E. PEARCE
C. C. ROBERTS, Esq.

Head Office:
HONGKONG

Chief Manager:
Sir VANDELEUR M. GRAYBURN,
Hongkong

London Branch:
9 Gracechurch Street, E.C.3

Shanghai Branch: 12 The Bund

Branches and Agencies:

AMOY
BANGKOK
BATAVIA
BOMBAY
CALCUTTA
CANTON
CHEFOO
COLOMBO
DAIREN
FOOCHOW
HAIPHONG
HAMBURG
HANKOW
HARBIN
HONGKEW (Shanghai)
ILOILO
IPOH
JOHORE
KOBE
KOWLOON (Hongkong)
KUALA LUMPUR
LONDON
LYONS
MALACCA
MANILA
MOUKDEN
MUAR (Johore)
NEW YORK
PEIPING
PENANG
RANGOON
SAIGON
S. FRANCISCO
SHANGHAI
SINGAPORE
SOURABAYA
SUNGEIPATANI
SWATOW
TIENTSIN
TOKYO
TSINGTAO
YOKOHAMA

Interest allowed on Current Accounts and on Fixed Deposits according to arrangement.

Local Bills Discounted. Credits granted on approved Securities and every description of Banking and Exchange business transacted. Drafts granted on London and the chief commercial places in Europe, India, Australia, Africa, China, Japan and America. Safe Deposit Boxes to rent. Terms on application.

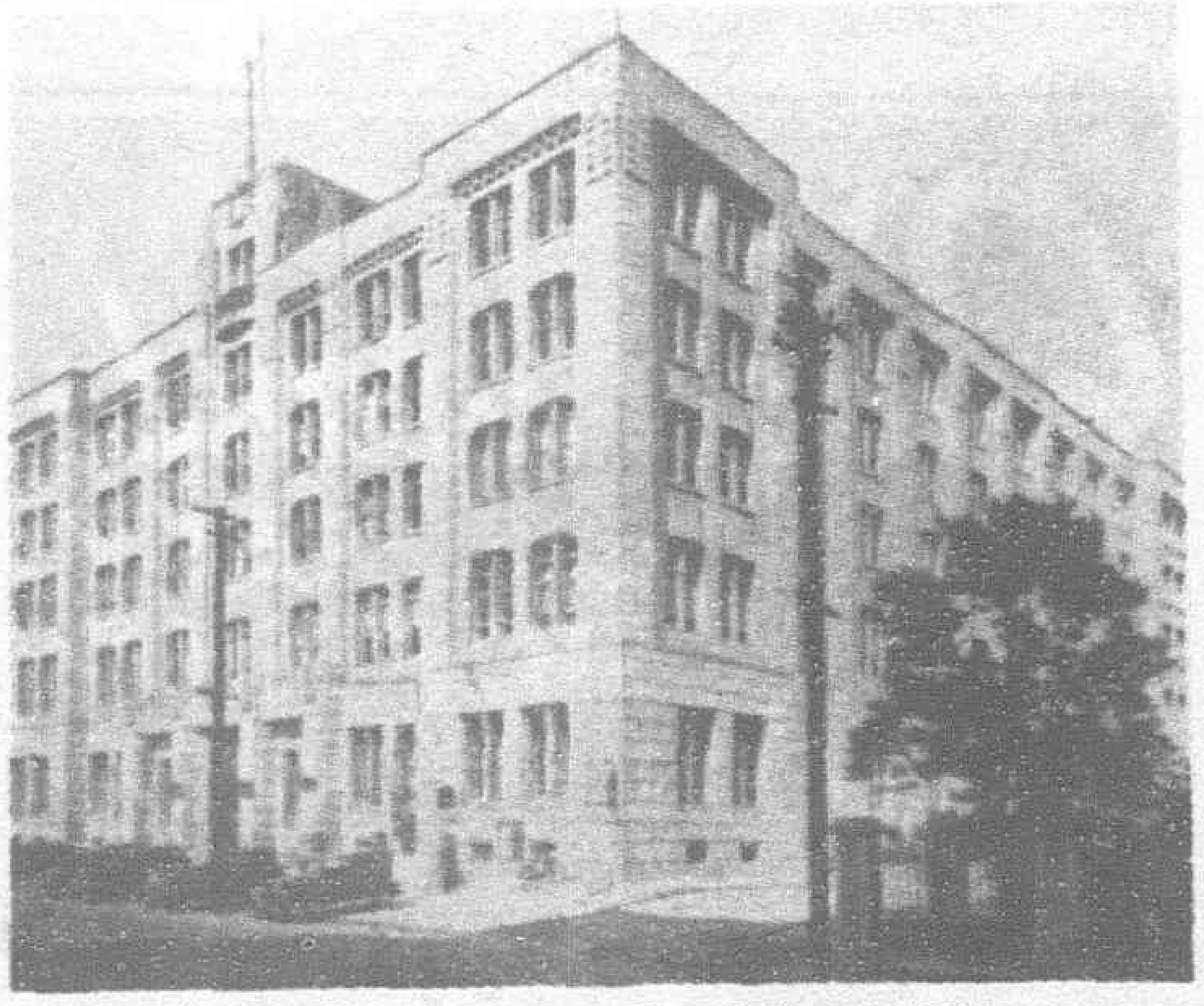
SAVINGS BANK OFFICE

Accounts will be kept in Dollars Local Currency.
Deposits of less than $1 will not be received.
Not more than $200 will be received during one month from any single Depositor.
Interest at the rate of 2½% per annum will be allowed upon the monthly minimum balance.
The maximum balance on which interest will be allowed is $5,000.

Deposits may be withdrawn on Demand.
Depositors will be provided with Pass Books in which all transactions will be entered. Pass Books must be presented when paying in or withdrawing money.
Savings Bank accounts also kept in Sterling and U.S. Dollars. Terms on application.

Office Hours—10 a.m. to 3 p.m. Saturdays 10 a.m. to Noon.

A. S. HENCHMAN, *Manager.*



Head Office: Toyo Building, Tokyo

THE ORIENTAL DEVELOPMENT CO., LTD.

(Toyo Takushoku Kabushiki Kaisha)

President: KOMANOSUKE SASAKI
Vice-President: RYUICHI IKEBE

Capital Subscribed - - - - - Yen 50,000,000
Capital Paid-up - - - - - - Yen 35,000,000

Branches:

CHOSEN - - - - Keijo, Fusan, Taikyu, Moppo, Rasin, Riri, Taiden, Genzan, Shari-in and Heijo
MANCHOUKUO - Hsinking, Mukden, Dairen, Harbin and Kanto
CHINA - - - - Tsingtao, Peking, Tientsin, Chokako and Shanghai

H. MORIOKA & CO., LTD.

(Exporters)

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Cable Address: "MORIOKACOY" TOKYO
Codes Used: All Standard Codes

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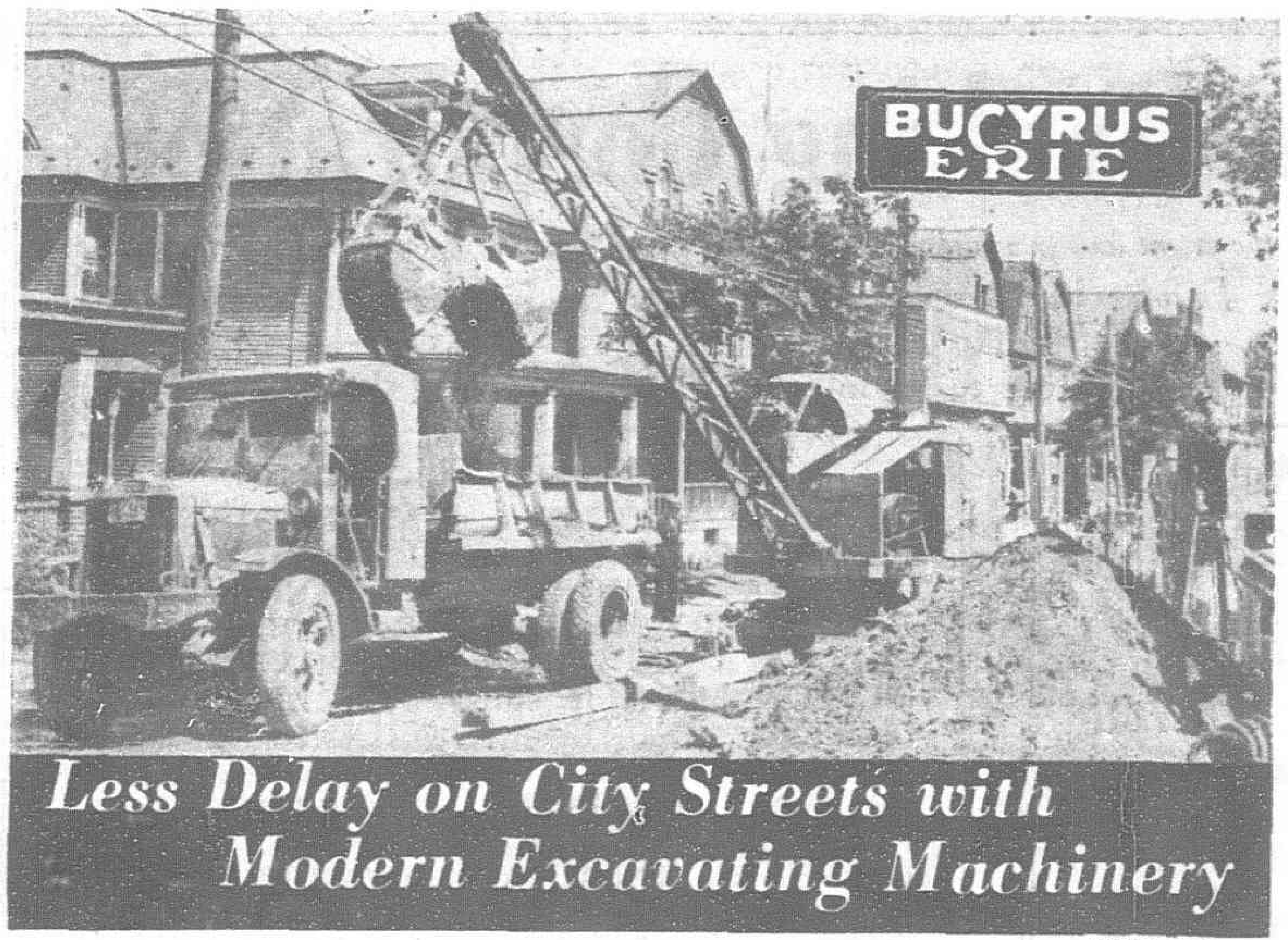
Plain and Corrugated Galvanized Sheets, Galvanized and Cold Drawn Wire, Galvanized Barbed Wire, Strand Wire, Galvanized Top Ridgings, General Builders' Hardware, Unrefined Coal Tar, Pitch, Creosote, Naphthaline. All kinds of Electric Goods, including Table Lamps, Flashlight Cases, Bulbs, Friction Tape and Bicycle Parts. Vacuum Bottles, Fancy Wooden Novelty Articles, Optical and Photographic Supplies, Cutlery, Stationery, Silk, Rayon, Staple Fiber and Cotton Dry Goods.

Reference Banks:

National City Bank of New York
Yokohama Specie Bank
Mitsubishi Bank
Sumitomo Bank
Dai Ichi Bank



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Modern Bucyrus-Erie excavating equipment not only does the job more economically, but it gets it done in the shortest possible time. For complete information on excavating equipment to handle your local projects, write to us.

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INSULATED WIRES and CABLES
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BATTERIES

THE FURUKAWA ELECTRIC CO., LTD.
4 MARUNOCHI 2-CHOME KOJIMACHI KU, TOKYO
Capitalization Yen 50,000,000
S. NAKAGAWA, *President.* J. SUGIMOTO, *Managing Director*
Cable Address: "FURUELECO" TOKYO

STANDARD-VACUUM OIL CO.

Capital (Fully Paid-up):
Yen 100,000,000

Reserve Fund:
Yen 139,650,000

**CORRESPONDENTS
AT ALL
THE CHIEF
COMMERCIAL CITIES
IN THE WORLD**

The Yokohama Specie Bank, Ltd.

Established 1880

PRESIDENT :
T. OKUBO

VICE-PRESIDENTS :
H. KASHIWAGI
S. YAMANOUCHI

DIRECTORS :
T. OKUBO
H. KASHIWAGI
BARON KOYATA IWASAKI
BARON I. MORIMURA
K. KODAMA
K. YANO
N. WATANABE
D. NOHARA
C. ARIMA

Head Office: YOKOHAMA
Manager : J. ODAKA

TOKYO BRANCH
No. 6, 1-chome, Honkokucho, Nihonbashiku
Manager : K. TAKEOKA

MARUNOUCHI AGENCY
No. 2, 1-chome, Marunouchi, Kojimachiku
Agent : K. TAKEOKA

BRANCHES AND AGENCIES :

Alexandria
Bangkok
Batavia
Berlin
Bombay
Calcutta
Canton
Changchiakow
Chefoo
Dairen
Fengtien
Hamburg
Hankow
Harbin
Hongkong
Honolulu
Hsinking
Karachi
Kobe
London
Los Angeles
Manila
Moji
Nagasaki
Nagoya
New York
Osaka
Otaru
Paris
Peking
Rangoon
Rio de Janeiro
San Francisco
Seattle
Semarang
Shanghai
Singapore
Sourabaya
Sydney
Tientsin
Tsinan
Tsingtao
Yingkow

CORRESPONDENTS AT ALL THE CHIEF COMMERCIAL CITIES OF THE WORLD

Interest allowed on Current Accounts and Fixed Deposits on terms to be ascertained on application.
Every description of Banking business transacted.
For particulars, apply to the Managers.

THE CENTRAL CHINA DEVELOPMENT CO., LTD.

AUTHORIZED CAPITAL, YEN 100,000,000

This Organization has been created to provide for Present-Day Needs in Central China—to restore Financial and Commercial Stability in this region—to Provide Essential Utility Services for the General Public, and to bring about in Central China a return of an Orderly and Systematized Movement of Trade, conforming in all respects with accepted Modern Methods of Business Practice. The Company is a Sino-Japanese Organization. Through its subsidiary Companies it is engaged in Investigating and Financing various forms of joint Sino-Japanese activities in which Participation and Investments of Third Power Interests are Contemplated and Anticipated.

The Subsidiary Companies of the
CENTRAL CHINA DEVELOPMENT COMPANY, LTD.

THE CENTRAL CHINA MINING COMPANY, LTD.

Authorized Capital: Yen 20,000,000

Nature of Business: Surveying, developing coal, iron and other mineral resources of Central China.

THE CENTRAL CHINA ELECTRICITY AND WATERWORKS COMPANY, LTD.

Authorized Capital: Yen 25,000,000

Nature of Business: Distribution of electricity: sale and hire of electrical equipment and apparatus; supplying water for industrial, irrigation and domestic consumption; organizing and financing electrical enterprises.

THE SHANGHAI INLAND WATER NAVIGATION COMPANY, LTD.

Authorized Capital: Yen 2,000,000

Nature of Business: Transportation of passengers and freight on the Inland navigable waterways in Central China; hire and chartering of ships; warehousing and wharf business with allied industries.

THE CENTRAL CHINA TELE-COMMUNICATION COMPANY, LTD.

Authorized Capital: Yen 15,000,000

Nature of Business: Development and operation of tele-communication business in Central China; hire of tele-communication installations and apparatus; financing subsidiary companies.

THE CENTRAL CHINA SILK REELING COMPANY, LTD.

Authorized Capital: Yen 10,000,000

Nature of Business: Silk reeling; selling and buying silk thread; research into new methods of producing and utilizing seeds and cocoons.

THE CENTRAL CHINA MOTOR BUS COMPANY, LTD.

Authorized Capital: Yen 3,000,000

Nature of Business: Operation of motor-cars, buses, trucks for transportation of freight and passengers; development of new highways and routes in Central China.

THE CENTRAL CHINA MARINE PRODUCTS CO., LTD.

Authorized Capital: Yen 5,000,000

Nature of Business: Operation of wholesale fish markets; refrigeration; transportation of marine products.

THE SHANGHAI REAL ESTATE CO., LTD.

Authorized Capital: Yen 20,000,000

Nature of Business: Town planning; buying and selling of land; construction of ports; financing real estate transactions.

THE GREATER SHANGHAI GAS COMPANY, LTD.

Authorized Capital: Yen 3,000,000

Nature of Business: Production and distribution of coal-gas; refinement and sale of by-products.

THE CENTRAL CHINA RAILWAY COMPANY, LTD.

Authorized Capital: Yen 50,000,000

Nature of Business: Operation of railways and long distance bus service in Central China.

THE HWAINAN COAL MINING COMPANY, LTD.

Authorized Capital: Yen 15,000,000

Nature of Business: Development and production of coal with its allied industries.

THE CENTRAL CHINA SALT INDUSTRIAL CO., LTD.

Authorized Capital: Yen 5,000,000

Nature of Business: Producing, refining and selling salt; financing and technically improving salt industry.

Printed by the North-China Daily News and Herald, Ltd., for the Proprietor

The Far Eastern Review

ENGINEERING FINANCE COMMERCE

VOL. XXXVI SHANGHAI, JANUARY, 1940 No. 1

FAR EASTERN CROSS-CURRENTS

THE United States Government, on December 22, took action which—for the time being, at least—virtually nullified the effects on Japan of the lapse on January 26 of the America-Japan commercial treaty of 1911.

The Treasury Department sent a circular letter to all customs collectors instructing them—"unless and until superseded by further instructions"—to refrain from collecting in Japan's case the ten per cent *ad valorem* duty automatically applicable to shipments to the United States from any nation having no commercial treaty with the United States when such shipments are in such nations' own vessels.

At the same time, the Commerce Department sent out instructions that Japanese ships are not to be subjected to the discriminating tonnage taxes for the use of United States harbors nor to "light money" assessments, following the expiration of the treaty.

It was explained that both the tonnage tax and "light money" fee are levied at the rate of 50 cents for each ton displaced by each vessel. "Light money" was first collected in 1804 to defray lighthouse costs.

In justification of the moves, both departments cited the proclamation by President Ulysses S. Grant, issued in 1872, rescinding in Japan's behalf the effect of these levies.

Attention was called also to an old law empowering the President to suspend duties by proclamation.

In effect, to-day's measures will restore to Japanese exporters and shippers the same treatment accorded them in President Grant's time, when no treaty existed between the two nations.

Both announcements came as a great surprise here. Although the White House and the State Department have maintained utter reserve on the question of Japanese relations and the expiring treaty with Japan, the declaration two days ago of a "moral embargo" on shipments of airplane equipment and aviation gasoline to "countries which are engaging in unprovoked bombings of open cities and civilians" had been generally considered as applying to Japan as well as to the Soviet Union.

CHUCKLES IN A DRAB WORLD

Beginning in this issue readers of this Journal are offered something apart and distinctly new—a literary find. On entering its thirty-sixth year of uninterrupted publication "The Far Eastern Review" is making no break with precedents or traditions on which its prestige has been built. It will continue monthly to review and describe progress in the Far East in engineering works, in industries and commerce, along with interpretive editorial comment on political and other trends, presenting also a summary of the significant news happenings.

In addition, in this new page feature, Readers are offered, for the first time in any publication, an innovation—the lore of Lo Pat under the title, "Tea Leaves from Lo Pat's Garden." Here in modern literary garb are the aphorisms of the Sage, the wisdom of the Ages in the idiom of the present day, done into English by that scholarly and ever amiable philosopher and master of poesy, Shamus A'Rabbitt. The accompanying appropriate decorations will be recognized as the work of Sapajou.

The twin notices suspending in advance levies against Japan which have been in suspension for the 28 year duration of the present treaty, and which would cost Japanese shippers thousands of dollars, gave promise that the Government intends to follow a policy of "mild appeasement" toward Japan despite the unilateral termination of the treaty.

Authoritative quarters regarded the actions as an indication that the United States contemplates no severe action against Japanese trade abruptly after it loses treaty protection.

The action also was interpreted as a gesture to keep open any pending conversations which the Ambassador in Tokyo, Mr. Joseph C. Grew, might develop into negotiations, provided the Japanese offer concrete and favorable terms as a basis for working out a new treaty.

Some officials believed the announcements, coming at this time, might be constructed as a slight "softening" of the Administration attitude toward Japan, prompted by the conditioned but favorable offer by the Japanese Government to reopen the Yangtze River to third-Power traffic as far as Nanking.

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THE United States Ambassador, Mr. Joseph C. Grew, on December 23 intimated to the Foreign Minister, Admiral Kichisaburo Nomura, that on the basis of fresh advices received from his home Government there is little danger of a treatyless situation being permitted to develop between Japan and America.

The Ambassador himself requested the meeting with the Foreign Minister, according to Domei, and the two conversed from 5.30 o'clock until 6.25 at the latter's official residence.

Thereafter the information bureau of the Foreign Office issued the following statement:

"A fourth meeting between Foreign Minister Nomura and the United States Ambassador on the question of adjusting Japanese-American relations was held at the Foreign Minister's official residence.

"Both sides expressed an attitude of mutual helpfulness in reaching a settlement of the question. The progress which was made in the negotiations is noteworthy. It is understood that there will be further meetings."

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ENTRANCE to a period of treatyless relations with the United States appeared in Mid-January to be unavoidable, Japanese political and diplomatic circles believed. Some circles, however, believed that it was possible to shorten this period by a re-examination of Japanese-American relations by Japan, dispensing with optimism regarding the United States' attitude towards Japan.

Reviewing recent events, diplomatic observers pointed out that Mr. Cordell Hull, U.S. Secretary of State, gave the impression that the United States had no intention of starting negotiations for the renewal of the 1911 Treaty of Commerce and Navigation or the conclusion of a *modus vivendi*. He gave assurances, however, that there would be no discriminatory treatment of Japanese residents in the United States.

In reply to a question asked by the Japan Cotton Federation, it was further pointed out, Mr. Hull stated that there would be no change in import duties even if the commercial treaty is allowed to expire.

It was also recalled that in the fourth interview between Admiral Kichisaburo Nomura, Minister of Foreign Affairs, and Mr. Joseph Clark Grew, American Ambassador, on December 22, it was announced that the Yangtze River would be partially reopened. The following day, Mr. Kensuke Horinouchi, Japanese Ambassador to Washington, proposed the conclusion of a *modus vivendi* to Mr. Hull.

It was towards the end of last year, diplomatic observers pointed out, that the United States made clear the intention of avoiding discriminatory treatment which might follow the expiration of the treaty. This announcement was in regard to tonnage dues, lighthouse fees and differential duties.

Instead of announcing intentions on the question of a *modus vivendi* or a renewal of the treaty at talks between Admiral Nomura and Mr. Grew, the United States stated that it was desired that negotiations for the settlement of pending questions regarding rights and interests, and China progress, observers stated. It was intimated at this time that the United States desired further concessions from the Japanese following the reopening of the Yangtze.

Japan had hoped by announcing the reopening of the Yangtze, diplomatic observers said, that it would serve as an example of the new order in China and thus wipe out apprehension regarding the American rights and interests in China.

It was contended by observers that if the United States understood the real intentions of Japan, America would change its attitude towards the renewal of the treaty and co-operate with Japan in the re-establishment of friendly relations between the two countries.

Such a change in attitude, observers declared, would result in not only the conclusion of a *modus vivendi*, but also a long-term commercial treaty. Thus, any possible discriminatory treatment in Japanese-American trading would be avoided, the observers claimed.—Domei.

The recent Cabinet crisis in Japan makes the continuance of negotiations with the United States for a *modus vivendi* to replace the expiring Japanese-American trade pact of 1911 impossible and the future of Japanese-American relations rests entirely in the hands of the American Government, the Tokyo *Nichi Nichi* said.

* * * * *

PERTINAX writes that the decision of the Japanese Government to reopen the Yangtze and Pearl Rivers to foreign shipping has been welcomed in France as indication of impending improvement in Japan's relations with the United States and other Western Powers.

All reasonable guarantees are likely to be given Japan by the French Government to make sure that freedom of navigation on the rivers will not be utilized to supply war materials to the Chiang Kai-shek regime.

* * * * *

NEGOTIATIONS for a commercial pact between the Soviet Union and Japan were resumed on January 12, at a second meeting of diplomatic representatives at the Commissariat of Foreign Trade in Moscow.

Representing Japan were Mr. Shigenori Togo, Ambassador to the Soviet Union, and Mr. Shikao Matsushima, Minister to Sweden. Soviet negotiators were M. A. I. Mikoyan, Commissar of Foreign Trade, and M. Yuri Kaganovich, Vice-Commissar of Foreign Trade. The meeting opened at 4 o'clock and lasted about an hour and a half.

M. Mikoyan presented Russia's proposals regarding a commercial treaty and Mr. Togo outlined the views of his Government. The interview ended with assurances from Mr. Togo that his Government would carefully study the Soviet proposals. A third meeting was expected to be held after Mr. Togo receives detailed instructions from Tokyo.

The first conversation was held when the Japanese diplomats presented a tentative draft for a treaty and gave a detailed explanation of it.

A NEW Chinese Central Government would be established in the near future, but this did not necessarily mean an early settlement of the China affair, said the Japanese War Minister, General Shunroku Hata in a New Year message to the nation.

He urged the necessity for continued vigorous co-operation on the part of the nation for the establishment of a new order in East Asia.

The situation in Europe was becoming more complex and serious, General Hata added, and it was necessary for Japan to make every possible preparation capable of meeting such a situation.

The Imperial Japanese Army, he said, was firmly determined to fulfil its duty for the settlement of the China affair and for coping with the world situation.

The War Minister also expressed gratitude for the sacrifices of the 70,000 Japanese he said had been killed in action during hostilities in China.

* * * * *

ADMIRAL Mitsumasa Yonai, surprise Imperial choice for the Premiership, completed the formation of a Cabinet on the night of January 15. His greatest difficulty was in finding a suitable person to assume the Finance portfolio, but he finally persuaded Mr. Yuko Sakurauchi, big business man and adviser to the Minseito Party, to take the post.

It is believed that, among others, Mr. Seihin Ikeda, Japan's outstanding financier; Mr. Chuji Machida, President of the Minseito Party and former banker, and Mr. Masanori Katsu, member of the Seiyukai Party and former Vice-Minister of Commerce, refused the post.

Another important position, Minister of Home Affairs, was given to Count Hideo Kodama, former Overseas Minister and a member of the House of Peers.

The Finance and Home portfolios are at present considered very important in connection with the key issue of the firm establishment of the Government's internal and financial policies to cope effectively with the China Incident.

The new Japanese Government is composed of :—

Premier :—Admiral M. Yonai.

Foreign Minister :—Mr. Hachiro Arita (held the same portfolio in the Hiranuma Cabinet).

Finance Minister :—Mr. Yukio Sakurauchi.

Navy Minister :—Vice-Admiral Zengo Yoshida (no change).

War Minister :—Gen. Shunroku Hata (no change).

Home Minister :—Count Hideo Kodama.

Minister of Justice :—Procurator-General Naotatsu Kimura.

Overseas Minister :—General Kuniaki Koiso (held the same portfolio in the Hiranuma Cabinet).

Minister of Communications :—Mr. Masanori Katsu.

Minister of Education :—Mr. Chinjiro Matsuura.

Minister of Commerce :—Mr. G. Fujiwara.

Minister of Welfare :—Mr. Shigeru Yoshida, former Ambassador to London.

Minister of Agriculture :—Mr. Toshio Shimada, Executive-General of the Seiyukai Party.

Minister of Railways :—Mr. Tsuruhei Matsuno, Director of the Seiyukai Party.

Secretary-General of Cabinet :—Mr. Sotaro Ishiwata.

Director of Legislation Bureau :—Mr. Hisatada Hirose.

A striking feature of the new Cabinet is that two former Ministers of State have joined it, not as Cabinet Ministers but one as Chief Secretary of the Cabinet—Mr. Ishiwata, Minister of Finance in the Hiranuma Cabinet last year—and the other as Director of the Legislation Bureau—Mr. Hirose, Minister of Welfare in the Hiranuma Cabinet.

The new Education Minister, Mr. Matsuura, is a Privy Councillor and formerly Chancellor of Imperial University at Kyushu, while Mr. Shimada, the Minister of Agriculture and Forestry, is a leading member of the Reformist Faction of the Seiyukai Party and held the same post in the Hirota Cabinet of 1936.

Mr. Matsuno, the Railway Minister, is a leading member of the orthodox faction of the Seiyukai Party.

The Imperial choice of Admiral Mitsumasa Yonai as Premier designate on the recommendation of senior statesmen has apparently come to the general public as an agreeable surprise, according to a Japanese report.

The American Export Import Bank has denied Chungking rumors that a $75,000,000 loan from this semi-official American bank to the Chinese Government is impending.

Bank officials said that new loans to any country were virtually impossible at present because nearly all current funds have been lent out to various countries, including the previously announced $25,000,000 loan to China.

Other quarters recalled that President Roosevelt intends to ask the next session of Congress to double the Export Import Bank's present funds by the addition of $100,000,000. This, it was pointed out, might facilitate a new loan to China, but such a move would probably take several months in Congress, even if it were successful.

Financial quarters in general disclaimed knowledge of any other present sources of a new loan to China. Chinese financial circles in New York also denied knowledge of the alleged loan, although some Wall Street quarters said they had heard an unconfirmed rumor that China might seek a loan in the United States for the purpose of supporting the Chinese dollar.

* * * * *

Rumors of a secret German-Soviet agreement covering naval operations in Far Eastern waters are circulating persistently throughout Italy, says a dispatch to the *Nichi Nichi* from Rome.

According to the rumors, the German Government has concluded negotiations with the Soviets to purchase half of the submarine fleet at Vladivostok for the purpose of preying on British and French merchant shipping in the Pacific, China Sea and Indian Ocean. Germany is also reported to have secured the right to use the Siberian port as a temporary base of operations for its Far Eastern submarine fleet.

German naval men have been hurriedly sent to Vladivostok and upon arrival will take over about 20 undersea naval craft.

Also, according to rumors in Rome, two German battleships, the *Deutschland* and one other, are secretly operating in the Indian Ocean and it is possible that they are on their way to Vladivostok to start operations against British and French merchant ships in Australian and Indian waters in connection with the submarines.

The Japanese paper recalls that the activity of German submarines and warships in Oriental waters in the last war was considerably handicapped by Japanese warships but to-day Britain and France must protect their commerce with their own warships and their present naval strength in the Orient is not sufficient to restrict the activity of German war craft.

The Italian navy is regarding the situation with great interest as, if the British Mediterranean fleet is reduced by the sending of ships to the Far East, its strength will become considerably less than the Italian navy.

* * * * *

Senator William E. Borah, veteran Republican of Idaho, declared in a special interview with the Associated Press, "I shall contribute everything I can toward bringing about a fair and reasonable treaty between Japan and the United States to replace the old treaty."

The Senator further declared that he would approach the question of a new treaty from the commercial standpoint only. He added that if any political considerations are to be involved, it should be up to Japan to suggest them.

Senator Borah pointed out that he had noticed that Japanese-American trade was increasing decidedly. "We aren't going to have so much trade on our hands that we can safely throw any of it aside without a very sound reason for doing so," he declared.

The Senator from Idaho emphasized that he did not believe that anything could be accomplished by refusing to conclude a new commercial treaty with Japan, "just because the United States is not sympathetic with Japan's aims in China."

Senator Arthur Vandenberg, Republican of Michigan, also in an interview with the Associated Press, declared that he favored the abrogation of the old Japanese-American treaty, but only to "untie our hands" to negotiate a new treaty.

He emphasized that the United States should be exploring "realistically" the possibility of settling Far Eastern problems by agreement.

The Senator from Michigan added that to permit Japanese-American treaty relations to lapse after January, without earnest efforts to "solve our differences pacifically," is to invite major trouble without an attempt to avoid it.

Legends that a "gold island" existed in the Pacific Ocean began to appear recently to be realities as additional information of vast deposits of the mineral believed to be available on Formosa reached Tokyo.

One dispatch said that the bones of several foreigners, apparently prospectors from the Netherlands and Portugal, had been found north of the Takkiri River, where deposits valued more than Y1,000,000,000 were believed to exist.

The remains show, according to the dispatch, that the early prospectors apparently were victims of "headhunters," who formerly inhabited the island.

Near the bones of the prospectors were found processing apparatus and implements for the mining of gold, it was stated.

With the finding of the gold mining apparatus, it was recalled that the late Dr. Jisaburo Yokoyama, an authority on placer gold mining, reported some 20 years ago that rich deposits existed on Formosa.

As these and other indications that rich deposits existed began to mount, the Government-General of Formosa issued orders that general prospecting in 60 valleys on the island, including Takkiri Valley, would be prohibited.

With Formosa promising to become Japan's major source of gold, a large party of mining experts were being assembled in Tokyo to determine the vastness of the deposits. The group was expected to leave very soon.

Included in the party will be representatives of the Engineering College of the Imperial University, Mitsubishi Mining Company, National Planning Board, the Mining Bureau in the Ministry of Commerce and Industry and the Ministry of Overseas Affairs. Representatives of the Formosan Government-General and the Japan Mining Company were expected to accompany the group on the exploration tour.

* * * * *

Gaping residents of Kamata, Kawasaki and Omori looked into the sky and blinked their bulging eyes as the recently acquired DC-4, largest land plane on either side of the Pacific, circled around for a few minutes beween Tokyo and Yokohama.

Looking something like a horizontal apartment house with its bulky fuselage and many windows, the big plane soared around the neighborhood for a total of 25 minutes, its four 1,400 horsepower motors roaring in a manner that would suggest a squadron of ordinary planes flying overhead.

Assembly of the huge craft, supervised by a Douglas engineer, was completed following its delivery quietly two weeks or more ago. The plane was purchased from the Douglas Aviation Corporation last August by the Japan Airways Company for $750,000, a fraction of its initial cost of upwards of $40,000,000. Hitherto the 42-passenger airliner has been the largest landplane in America. It now is the largest in Japan, by quite a wide margin.

Before the test flights started officials of the Japan Airways Company had been rather skeptical as to whether the Haneda International Airport would be large enough to permit the great craft to take off and land.

The initial fight was made with an American crew at the controls, according to Domei. Starting at the southern end of the airport, the big plane headed into the wind with its four motors roaring, and rose into the air after traversing only one-third of the 750-foot runway. The plane circled the field twice and then came in smoothly on its tricycle landing gear after ten minutes in the air. Japanese pilots then had a hand at it, sailing it around for 15 minutes before bringing it down.

Both flights were pronounced highly successful.

After the two brief trials, the interior of the plane was opened for the inspection of officials and distinguished visitors. Inside they found arrangements as comfortable and spacious as a Pullman car. The 42-ft. by 11-ft. central compartment has two rows of seats seating 20 on each side, according to Domei. Eleven berths fold down above them on each side.

In the rear compartment there are four more seats, and still another compartment has three chairs. A tiny kitchen equipped with electric plates is situated behind the cockpit.

The airliner weighs 20 tons, has a cruising range equivalent to the distance between Tokyo and Canton, and can fly a ten ton payload at a top speed of 230 miles an hour. It cruises at 190 miles per hour.

According to Domei, the Japan Airways Company has not yet decided just what to do with its flying bargain.

During the eight months preceding England's declaration of war against Germany, Japan exported an average of Y39,400,000 worth of goods monthly to the United States. This amounted to 26 per cent of Japan's average export trade with all countries outside of the yen bloc.

During September and October, Japan's exports to the United States averaged Y79,900,000 a month. This amounted to 44 per cent of Japan's non-yen-bloc exports during these two post-war months.

The import trade, according to the same Finance Ministry figures, has not been so greatly affected. In the eight months preceding the outbreak of the European war, Japan's imports from the United States averaged Y82,400,000 a month and accounted for 48 per cent of Japan's total imports from non-yen-bloc countries.

In September, Japan's imports from the United States eased to Y75,500,000, and accounted for but 25 per cent of Japan's non-yen-bloc imports for the month.

In October, however, imports from the United States recovered to Y82,600,000, and accounted for 44 per cent of Japan's total non-yen-bloc imports.

Though circles are of the opinion that the outbreak of the war was, in a large measure responsible for the advance in shipments to the United States, there are two other factors which must be taken into consideration.

The decline of the yen from approximately 27.33 to 23.45 American cents during the two month period automatically increased the value of Japanese exports to America by 14 per cent in terms of yen.

It will be recalled that the 14 per cent decline of the value of the yen in terms of the dollar was a direct result of the weakness of the pound sterling resulting from the war and the uneasy European conditions preceding the outbreak of the war.

The increase in the price of silk from Y1,300 a bale for base D grade, number 11, on October 1 to Y1,900 a bale on November 1, automatically increased the value of 69 per cent of Japan's exports by 46 per cent. This is equivalent to a 32 per cent increase of the value of the total exports.

LIGHT

By SHAMUS A'RABBITT

If a man is on his back
he must look up—
E'en the man at the bottom
of a pit
Must look to the heavens
for light—
When the world seems to be
in a state of chaos
The gloom of our surroundings
should accentuate the hope
which shines above
the struggles of mankind—
We know the past
for all its shortcomings
As well as for the blessings
that were ours—
The future must be brighter
if the present is so dark—
The sun, the moon, the stars
all look
Upon this changing world—
And even they must change
while we forever
turn a new face
to the sun—

A part of the increase in the value of silk is a result of the decline of the yen in terms of the dollar, a part the result of the scarcity of silk resulting from increased domestic consumption and a part the speculative increase resulting from the outbreak of the European war.

(It must be noted that the above two effects, being somewhat interdependent cannot be added together).

The September-October gain in Japanese exports to the United States spread throughout the list.

Silk exports to the United States, which had averaged Y27,300-000 a month during the eight months preceding the outbreak of the European war, jumped to an October-November average of Y55,200,000.

Canned goods shipments to the United States rose from an eight-month average of Y1,400,000 a month, to Y4,000,000 a month in September and October.

Tea exports advanced from a Y400,000 a month average to a Y1,400,000 a month average, bleached cotton textiles from Y400,000 a month to Y1,100,000 a month, vegetable oils from Y500,000 to Y1,200,000 a month and camphor from Y85,000 to Y400,000 a month.

* * * * *

The United States Navy proposes to spend $4,000,000 during the next fiscal year for improving facilities at Guam—dredging seaplane runways and erecting breakwaters—Admiral Harold R. Stark, Chief of Naval Operations, told the House Naval Affairs Committee on January 10.

Funds for this purpose have been included in the budget for the 14th Naval District Headquarters at Hawaii, he revealed. A specific authorization, such as was asked for last year, is not necessary, he declared. Admiral Stark's statement immediately raised last year's controversy, in which Guam was removed from the group of authorized naval bases. Committeemen sought to determine whether the proposed improvements are authorized.

The Committee Chairman, Mr. Carl Vinson, Democratic Representative from Georgia, abruptly shut off the discussion with the assertion that "Guam is not before this committee in any way, shape, or form. Let's stick to what is before this committee."

After testifying before the committee, Admiral Stark told the press that Guam might be immensely valuable to the United States, not only for naval sea and air purposes, but for commercial airlines. "Guam fortified might be worth two or three battleships to us," he declared.

Admiral Stark placed the cost of equipping Guam as a base for seaplanes, submarines and small warships at $80,000,000. Full fortification of the island, he said, would cost $250,000,000.

* * * * *

The Manchurian Affairs Bureau of the Tokyo Cabinet has announced its approval of an increase in the capitalization of the South Manchuria Railway to Y1,400,000,000 a step which will make the world-famous concern Japan's greatest firm, according to the *Chugai Shogyo*.

The move will be made formally at the shareholders' meeting in Tokyo some time early in 1940, putting the firm ahead of the Tokyo Electric Light Company, capitalized at Y800,000,-000 with which it was tied in financial strength before.

Commenting on the new capitalization, Mr. Takuichi Omura, president of the South Manchuria Railway said: "Of our old capitalization, Y63,-792,000 has not been paid up and of our old bond issuing limit, Y483,010,000 has not been floated. Added to Y1,800,000,000 we shall have room to raise Y2,346,000,000 of a new fund eventually. With this sum our urgent tasks, such as enhancement of the transport capacity through the extension of the railways, expansion of the harbor works, colliery and oil industry, can be managed."

The Cabinet's Manchurian affairs bureau announcement said, in part: The amount of increase is set at Y600,000,000, of which the Japanese Government will pay Y300,000,000, private stockholders Y200,000,000; the Manchoukuo Government Y50,000,000, and South Manchuria Railway Company clerks and other persons resident in Manchuria, Y50,000,000.

"None of the new shares will be put out for public subscription but all will be allotted. This time, investment by the Manchoukuo Government, will be recognized, for no other purpose than to cement further the tie between that Government and the Company, so that its management may be carried on without interruption.

"Naturally, the capacity of the company as a juridical person and the existing system of supervision (by the Japanese Cabinet's Manchurian Affairs Bureau, headed concurrently by the War Minister) will not undergo any change after the capital increase.

"By the present increase . . . because the old capitalization has been Y800,000,000, the company's limit of private bond issuance is raised by a margin of Y1,200,000,000. It means that the company will have new room for raising a total fund of Y1,800,-000,000 (Y1,200,000,000 plus Y600,000,000), ample to finance new projects for years to come."

Tea Leaves from Lo Pat's Garden

by Shamus A'Rabbitt

Our errors mark
Important mile-stones
On the road of effort—
Blind indeed is he
Who stumbles on
The mile-stones
Of past errors.

◆◆◆◆◆◆

Most of us would not think
The other fellow a fool
Unless we had been a fool ourselves.

◆◆◆◆◆◆

He who displays gentleness
Might be as simple as a child
Or as cunning as a knave—
If he is stupid
He gets the benefit of the doubt.

◆◆◆◆◆◆

Being thoroughly unselfish
Makes it hard
To accumulate enough
To enable us to practice this virtue

◆◆◆◆◆◆

Many a man has practiced selfishness
Until he could afford
To be unselfish.

◆◆◆◆◆◆

The man who crushes a woman
May still have a rose,
But it has been blasted by a north wind.

◆◆◆◆◆◆

The "big man" gets a real "kick"
From letting the "little girl"
Fool him.

◆◆◆◆◆◆

Men might have as much sense about their wives
As they have about their business
If they would make an occasional audit
Of the wife's feelings.

◆◆◆◆◆◆

If a boy could profit by the experience
Of his father
He would die of inertia.

◆◆◆◆◆◆

It is strange that men who learn
From the Book of Experience
Try to hide that volume from their sons.
Experience is as necessary for Son
As it was for Dad.

Fortunate is the man who never poses
as a saint
To his offspring—
His children avoid the dregs of
disillusionment.

◆◆◆◆◆◆

When a boy will not listen to his father
Dad ceases to be a hero.

◆◆◆◆◆◆

The man who keeps the confidence
Of his son is richer
Than he who strikes oil
In his own back yard.

◆◆◆◆◆◆

Self esteem
Is as essential
As good health

◆◆◆◆◆◆

He who is satisfied
With crumbs
Is seldom
Invited
To the banquet of life.

◆◆◆◆◆◆

'Tis strange what hard work
Some "easy" men have to do in this world
And what an easy time
The "hard" men make of it.

◆◆◆◆◆◆

The girl who reads a novel
And cannot imagine herself the heroine
Is in the running for a pilot's license
On the Old Maid's Air Line.

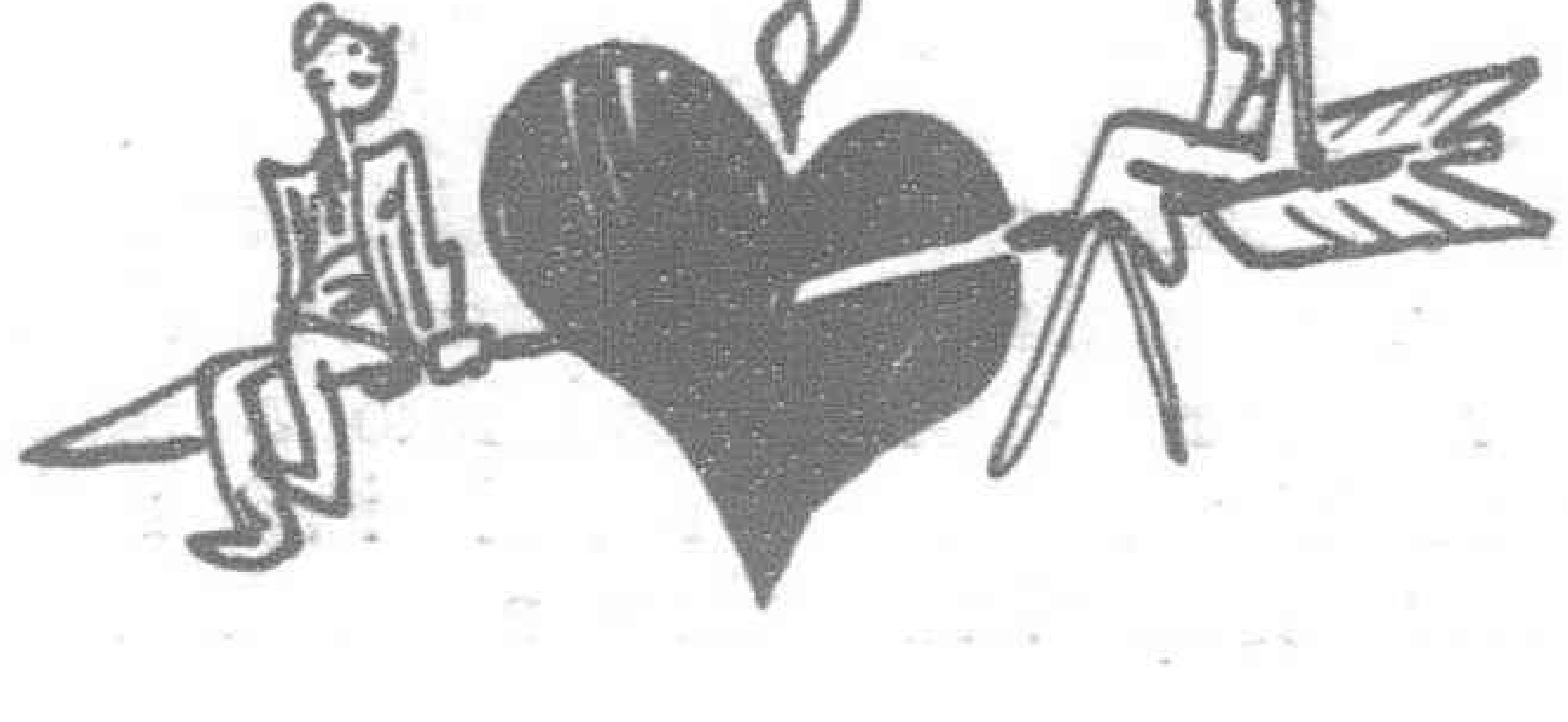
◆◆◆◆◆◆

The girl who takes a "wicked book"
From her little brother, and reads it—
Is like the clergyman who goes
slumming
To get "material for his sermons."

◆◆◆◆◆◆

To be pleased with form
Rather than substance
Is a trait of ceremonialists

◆◆◆◆◆◆



The divorce courts would have little to do
If marital partners would meet only
Those whom they would introduce to each
other.

◆◆◆◆◆◆

A man gambles with his money
A woman with her life.

Answering Ambassador Grew

By GEORGE W. GORMAN

(The following observations upon the address to the America-Japan Society of Tokyo by the United States Ambassador to Japan, Joseph Clark Grew, are from a well-known foreign journalist resident in China for the past 13 years, who had the privilege of listening to His Excellency's speech on October 19).

* * *

SEVERAL hundred Japanese and foreign members and guests of the Japan-America Society who attended the luncheon to welcome the return of Joseph Clark Grew, the United States Ambassador to Japan, and Mrs. Grew, were profoundly impressed by the power and sincerity of His Excellency's address in response to the warm words of greeting by Count Aisuke Kabayama. There was manifest in that address a deep and warm affection for Japan, with a desire for the betterment of relations between the two great Pacific nations.

His Excellency made it quite plain that in reporting upon his observations during his term of leave in America he felt impelled to put platitudes aside in favor of a straightforward presentation of facts as he had gleaned them, particularly with reference to the attitude of the American people as a whole toward Japanese policy and actions in East Asia. These convictions of the United States government and people were also his own. The address was one of such breadth and scope as to stand out as a document of first importance, and as it was read and emphasized before an audience, representative of the intelligentsia of the Japanese capital, one can assume that through these people it will reach a much wider field. Presumably it had received the cachet of the State Department and will rank with state papers as an elucidation of American policy toward the Far East.

Balance Necessary

Because of the fact that the address could be accepted as a criticism of Japanese activities in Manchuria and China, delivered publicly, even though made in the friendliest of spirit and with the aim of pointing the way to Japanese-American amity, it is felt that the Japanese side of the case should be put forward concurrently in order to balance the divergent opinions. His Excellency, with his eminent understanding of fairness, will, perhaps, accept a few contrary points, not so much in controversy as in an effort to reach a wider understanding.

Mr. Grew is reported as saying that Japan must accept the fact that American public opinion is unanimously opposed to some of the things the Japanese armed forces are doing in China, and the basic causes of this opposition must be removed for the improvement of relations between the two countries. Many hearers concluded that such public opinion in America has deduced the erroneous idea that the Japanese armed forces are acting independently of Japanese national authority. This is a widely accepted view in America, evident to all who follow editorial radio and political statements.

The Japanese Army, now under the central command of General Nishio, and previously commanded by regional officers, always have been subject to imperial control and to central direction of the War Office. Unity among the Japanese is one of the characteristics of this nation ; hence any exception taken to " some of the things the armed forces are doing in China " must be understood as exception to Japanese policy as a whole. There should be most emphatic repudiation of any belief in foreign countries that the Japanese Army is an autonomous unit.

On many occasions correspondents in China have discovered that important actions could not be undertaken without prior reference to Tokyo. Chief points of strategy throughout the campaigns in Manchuria and China were worked out in Tokyo, the commanders on the ground developing the tactical maneuvers. Evidently, though, as with armies throughout history, generals in the field were required to assume responsibility for a variety of measures designed to promote success in arms and the safety of their forces, as well as for the administration of areas after occupation.

" American opinion is unanimously opposed " is a very strong assumption. Surely everyone is not in accord with Washington policy, critical of Japan and sympathetic with China. More than one senator, including the redoubtable Borah, has taken an independent line. General Hagood has demanded that the armed forces of the United States should be withdrawn from China. Some fifty million Catholics long have been critical of the Kuomintang's anti-Christian activities and eulogistic of the religious liberty enjoyed in Japan. They cannot have lost sight of the fact that in the ten years previous to the outbreak of hostilities in Asia some 285 foreign missionaries, including two bishops, were put to death in China, while not a single violent death was reported in Japan. Throughout the Manchurian campaign, which I covered in the opening years, there was only one case of a German missionary having been killed. I mention these cases as likely to controvert the idea of unanimity in public condemnation of Japan.

The American people, we were told (and there is no doubt of Mr. Grew's firm belief that this is so), have a firm grasp of foreign affairs, are not misled so easily as is thought in Japan, and base their opinions of the Far East not on propaganda but on facts. This phrase opens up a very large field indeed, such as the history of propaganda, the background of anti-Japanism in China, the reasons for " undeclared war," the meaning of the term " aggressor " and other facts which have been inadequately considered by American people at home. Embraced, too, are such matters as the bombardment of " open cities," the rights and interests under treaties, the right of diplomats, war claims of neutral nations and nationals and the question of intervention. Some of these issues growing out of hostilities in China are practically unknown to the masses of people in America, or have been improperly described in propaganda, or their factual nature has been misunderstood.

Misconceptions Current

Long before 1937 or 1931 there had been allowed to prevail in many foreign countries, including America, a concept of Japanese military and naval ambition and of popular aggressiveness toward foreign interests here and on the mainland that would not have existed had there been more men of Mr. Grew's type to steady growing hostility. Partly resentment at Japan's growing power among superficial thinkers, partly fear of expansionism, partly Japan's mounting influence in Chinese affairs to the seeming detriment of foreign interests, were bound up in this misconception of Japanese aims. These factors were dominant in bringing about the denunciation of the Anglo-Japanese Treaty. On the other hand there was fostered in the United States an astonishing trust in the " downtrodden Chinese." Here we have the effects or propaganda leading up to an extreme readiness to accept Chinese (Kuomintang) statements in 1931 and 1937, and rejection of Japanese claims, with insufficient regard for the truthfulness of either. Many people cannot agree with Mr. Grew that the American people have been able, by some superhuman perception, to separate the grain of truth from the chaff of propaganda. Chinese publicists have worked with great shrewdness and an appearance of candor, in playing upon the emotion and romantic sympathy of America. This Kuomintang publicity in America recalls a term used by Sir Arthur Ponsonby :

" The point is that propaganda is as much a weapon of war as a gun, and far more effective."

Such guns were actively directed against Japan by the Kuomintang further back than the original *putsch* of Chiang Kai-shek in 1927. Such warlike activities certainly had their effect in bringing about the condemnation of Japan by the League of Nations in 1937, without a hearing. The distinguished diplomats gathered there reflected the anti-Japanese work constantly carried out abroad by the Kuomintang appointees, who, to quote Napoleon, " lied like a bulletin." As Erasmus would put it, they used " artful insinuations, watchwords and nicknames, cunningly thrown out in debates, pamphlets and journals."

If it is true that propaganda has been shed by peoples abroad as a duck sheds rain, there must have been a vast change in the circumstances of the Great War. For, as George Creel said, in explaining how Allied propaganda drew the United States into the Great War:

"The total costs of British propaganda in the United States during the entire period of the Great War, were slightly less than $5,000,000."

And William McAdoo points out that "British publicity in America was characterized by an artistic unity and a singleness of purpose," in which they since were easily outdone by the capable propagandists of China and their faithful friends. I mention these not in the belief that propaganda drew America into the Great War, but to show that many Americans believe such was the case, and that being so we cannot overlook the influence of pro-Chinese propaganda, taken up and expanded by certain writers who, sincerely or not, found the case against Japan and for China much more exciting "copy" than any defense of Japan's position. What Sir Gilbert Parker did for Great Britain in America, Chinese and associated workers have outvied, in recent years.

The spoken and written word alone could not give China such an advantage. There are aspects of preparation which must be taken into account. Examine the differences between Japan and China for a brief moment. Japan had become an independent nation, standing on her own feet, developing her own industries, trade, shipping. Her doors were closed to Western opportunity, not because of Customs impediments, but because the country had worked with amazing speed to establish her own economic independence. Gradually foreign instructors and experts were replaced by native technicians, and in due time the country was on a parity with Western States. There was no exploitation of Japan as the country gained economic integrity. But China sprawled, undeveloped, disunited, a rich (but not so rich as many people assume) country which could be exploited for treasure. And let me say that in their exploitation of China the Western nations, including America, were not necessarily despoiling the country. Magnificent work has been done in building up transportation, business generally, culture, medicine and education. New China owes much to their enterprise, as it does to Japanese organization such as was furnished in Manchuria by the South Manchuria Railway.

China could be patronized. Japan could not be coerced nor patronized, and it is psychologically evident that the foreign interests in China quite naturally resented any change which would too abruptly do away with privilege. Material opportunity was abundant for the foreigner in China whose foreign trade, and much of whose domestic trade, was controlled from the outside.

Considering this situation as it existed prior to 1937 can we not fairly assume that foreign opinion would be strongly biased in favor of a continuation of things as they were, and against things as they might be with an Asia raised to new levels of self-dependence, especially with the neighborly co-operation of Japan? Here we can perceive the groundwork of "sympathy for China," which in reality was the West's sympathy for itself, a fertile ground for Chinese favorable publicity abroad when hostilities commenced. Furthermore we can see how difficult it would be for Japan to make a case against the established strong tides of antagonism to continental development.

Press Blamed

In following along the historic lines of their policy of setting one power against another to achieve their own ends, the Chinese governments and interests have had many weapons within easy reach besides the foreign commercial colonies. English language newspapers and news agencies established in China in their own interests must depend on local conditions and Chinese official favor. Consequently they back up Kuomintang China and her policies; they criticize Japan. Their position is understandable, inasmuch as livelihood is at stake. From the attitude of many such newspapers who reflect their national commercial and official policy, foreign publications abroad often innocently take their cue.

Japan, in countering this influence, has been overwhelmingly handicapped, and thus America, with other countries, constructed what they believe are the "facts" referred to by Mr. Grew. When the time came that Japan reacted to the constant and perilous hostility of Kuomintang China, newspapers and services furnishing news to people abroad could not be expected to go into long and involved explanation of background. They were confined to descriptions of "invasion," of the bombardment of "open cities."

Earnest Americans seeking for better relations between Japan and the United States may not believe that such reports were propaganda, or were superimposed upon an animosity to Japan growing out of previous propaganda, yet the fact remains that the influence was there, and Japan was the sufferer. As this immense stream of unfavorable comment reached the outside world, as Japan realized the hopelessly dominant public opinion built up against her, is it any wonder that the people fell back on themselves, perhaps sullen and resentful even while hoping against hope that a judicial attitude might eventually emerge. Many Japanese, when confronted by this state of affairs, have told me that they relied upon the inherent truth coming through in the long run, and that when the world sees fruitful co-operation between Japan and China, with unrestrained opportunity for other nations, subject to such safeguards as those other countries adopt for themselves, there will be eventual realization that recent developments were predicated upon the general good.

The radio has played an important part in pro-Chinese and anti-Japanese propaganda. Here again China has had the edge on Japan. Broadcasters in the Chinese lines and their sympathizers with stations in the settlements and concessions worked toward two ends: to maintain the national spirit and encourage resistance, and secondly to influence foreign opinion.

One result of this can be traced back to the early part of the "war." Nanking broadcast wild claims of Chinese victories at Fengtai. They said the Japanese were "on the run" from the Fengtai junction just outside Peking, whereas in reality the Japanese Army was moving out to envelop Peking. Instantly there was jubilation that led to uprisings at Tientsin and Tungchow. There were massacres of hundreds at Tungchow and a critical situation at Tientsin. The murder of Japanese women and children was given very little prominence in the United States; Japan's critical position at Tientsin was played down and the bombardment of Chinese cultural institutions at Tientsin were headlined as a deliberate move to destroy a Sino-foreign university (which, by the way, was being used as guerilla headquarters).

I am not seeking to blame the Kuomintang for using the weapons of publicity at hand, but I believe it is only fair to point out how this constant flow of anti-Japanese news did have the effect of propaganda, contrary to what has been conveyed to His Excellency on his recent furlough.

Japanese broadcasters, on the other hand, have confined themselves to bald statements of fact, or in some cases have extolled their own victorious armies. The former have lacked vividness or independence; the latter have been shrugged aside by foreign listeners because an audience prefers third party statements which were not easily available, due to the Japanese tradition of excluding foreign correspondents from their front lines, as did Kitchener in the early part of the Great War.

I remember listening to a foreign broadcaster from Shanghai quoting the Chinese Spokesmen while the Kuomintang forces were already retreating from the great port, saying that the action there had proved beyond doubt that Japan was a second class military power. It was widely quoted. The subsequent march on Nanking and Wuhu was one of the most striking martial achievements in the history of war, considering the water obstacles between the seacoast and the capital. But the feat was not accepted with the same relish as the simple and ridiculous allegation of the Chinese spokesman.

Considering the fact of Japan's unpopularity abroad, due to misrepresentation or to lack of complete information, one can see that Japan has a formidable task ahead in breaking down established opinion. Their main difficulty lies in dealing with a lack of neutrality abroad. The United States government may have acted with due regard to the physical nature of neutrality, but in the addresses and notes of Mr. Stimson and Mr. Hull will be discerned a strong bias. Mr. Grew says the government frames its policy on public opinion, which may be so, but that public opinion has often been steered by official activity, and fostered by an unfortunate one-sidedness which it is the duty of friends of the two nations to abate.

I have tried to show that, despite the impressions conveyed to the United States Ambassador, certain conditions existed which predisposed the American people toward strong criticisms of Japanese action in China, no matter what those actions were.

Eager they might have been for the truth and the facts, just as Mr. Grew is keen that they should know conditions. But the long background of Chinese preparation of public opinion in the United States, and the inherent resistance of commercial, missionary and diplomatic bodies to any change undertaken through force by Japan, presented a formidable barrier to the fullest understanding of the position. One of the striking factors controlling a one-sided attitude was the emphasis placed upon specific Japanese military measures. Military and naval authorities in America of course know the laws and usages of war which are employed by all armies alike, whether it was Sherman's devastation, Chiang's "scorched earth" policy or Japan's bombardment of principal cities.

The general public, however, is not so well-informed, and to them certain "legalistic" points might be brought forward. The Japanese, once engaged in war, had to apply the principles of warfare to the fullest with the aim of bringing conflict to an end in the least possible time. Attacking as they did, they were in the news as aggressors, and as such received the bad end of newspaper display.

The Real Aggressor

In reality the aggression initiated by the Kuomintang party took many forms long before the Japanese Army moved in. If we look back to 1927 and 1928 it is to recall the drastic anti-Japanese boycott. There had been other boycotts which took the form of industrial "strikes," but this one was strongly political. Throughout the North, anti-Japanese vigilante committees, with extra legal powers, were set up. These appointed patrols to examine shops suspected of selling or stocking Japanese goods. Without interference from the government these patrols seized goods in stores, arrested shopkeepers, heavily fined them, and in some cases put them in stocks and cages in public places like Ch'ien Men, Peking.

The whole thing was a racket, and the large sums realized by the confiscation of goods (for resale) or fines, went into the pockets of the organizers, many of them Kuomintang officials. This sort of thing was aggression of a despicable type, because whilst it inflicted economic punishment on Japan, it victimized innocent Chinese tradesmen. Patently it was part of a general campaign to build up anti-Japonism.

Manchuria Incited

Various other measures of a punitive type were employed, including active resistance to the collection of revenues from the Tsinan-Tsingtao railway in Shantung, which was at variance with the legal measure empowering Japan thus to recoup its investment. When Chang Tso-lin had fallen back to Manchuria, and to his death, the Kuomintang party sent emissaries to the Three Eastern Provinces charged with fomenting anti-Japanese activities. The Young Marshal and his colleagues were provoked to employ all sorts of measures against Japanese interests, including interference with the shipment of natural produce to the port of Dairen.

Against an existing agreement, the Chinese up north were encouraged to build a parallel line to the sea, diverting traffic from the Japanese lines. It was impressed on Chang Hsueh-liang that if he did not fall in line a revolution would be inspired against his control, and he was compelled to hoist the Kuomintang flag to include the country within the empire of Nanking, despite the fact that Chang Tso-lin had maintained complete autonomy and the country was commonly regarded as Japan's economic sphere of influence.

I am mentioning these heads because they show a definite line of aggression under the guise of patriotic nationalism. Foreigners were included in these violent activities, and there is the well known case of a German diplomat at Mukden who was persecuted and driven from the country a broken man, because he had accidentally killed a Chinese woman. Actually his motor-car had frightened a mule some hundreds of yards away from his machine, and the woman was mortally wounded in the ensuing accident, Throughout China, at that time, there was a strong trend of anti-foreignism also, during which so many missionaries were killed, the explanation given being that the guilty parties were bandits. During this period, too, occurred that wanton attack on foreigners, including rape, at Nanking, which instigated foreign naval intervention. I don't think compensation was received.

Tsinan Atrocity

All this hostile activity, directed mainly against the Japanese, and also including Americans, British and others, did not receive the sensational treatment that the alleged Japanese aggression later was to invite. That it was aggression cannot be doubted, eventually to culminate in various provocative measures such as the setting up of a tariff wall against Japanese goods once the powers had granted tariff autonomy to the country. We should not lose sight of the atrocities of Tsinanfu in 1928 when the military units of Chiang Kai-shek massacred women and children, hideously torturing the victims before and after their death. In this case, Japan had to send in a punitive expedition under General Fukuda. I was in Tsinan after the incident and verified the atrocities.

With that background of aggression leading up to the occupation of Manchuria, and the setting up of a Manchoukuo Government, later having the Marco Polo bridge sequel, the foreign press was seemingly unconcerned as to its true meaning of deliberate provocation. The incidents as they arose were reported, but the whole pattern of deliberate hustling of Japan did not receive adequate attention. Or if any deduction was drawn from the various activities it was that the country was being nationalized and unified.

Then came the 1937 intervention, with the subsequent branding of the movement as deliberate Japanese aggression, unprovoked. There is no doubt whatever that between 1928 and 1937 the Kuomintang was building up an army of upwards of a million men, with foreign experts and advisers, whose intentions have been described as an effort to drive Japan into the sea. Many posters used these very terms. Known to many observers was the Kuomintang's intention of instigating an outbreak at Shanghai with the intention of embroiling the Japanese, and perhaps of taking over the settlements, rendition of foreign areas being a standard slogan of the party. How far this had progressed was revealed in an article I read in the *Japan Advertiser*, shortly after the outbreak of hostilities at Shanghai quoting a foreign resident of that city as saying that the Chinese troops were openly talking of starting trouble there, primarily aimed at Japanese interests. Later this activity was explained away as a long-considered military maneuver of defense should Japan attack the country.

Under all this pressure of aggression Japan had undertaken the usual political means of settlement with various local authorities but they got nowhere, and all the time the Kuomintang military machine was being strengthened and expanded. Foreign opinion abroad, especially in America, had been led to believe in the pacific national aims of the party in power, and when the Japanese finally deemed military action necessary as a defensive measure the press, no doubt in good faith, but with a knowledge that the sensational angle makes the most telling news, labeled Nippon as aggressor. This fact, I contend, is the underlying cause of criticism of Japan, and to that extent is the propaganda affecting United States public opinion. Certain missionary elements did much to encourage belief in the high purpose of the Kuomintang and the sinister activities of Japan. Later they were to learn that the Kuomintang was anti-Christian, although it changed this policy when the New Life movement was launched to counter the Wang Tao Confucianism and tolerance of Premier Chen Hsiao-hsu, the poet and philosopher who put his young Emperor and protégé on the throne of Hsinking.

Undeclared War

A proper definition of aggressor, as given by one Peking writer, is the person who begins the quarrel. The assailant may be the one who had given the physical reply.

Having indicated in what manner China, or the Kuomintang, committed the first overt acts preceding the Lukuochiao outbreak, we may now turn to the business of an "undeclared war." Much has been made of this in American newspapers and periodicals, helping to form that public opinion referred to by the United States Ambassador. The point repeatedly has been raised that war should have been declared, but even the League is known to have avoided reference to any definite interpretation. Lauterpacht, in discussing the point and its application to Article 16 of the Covenant (invocation of which would determine whether there was a war) says:

> "The terms of this article are imperative. There is only one way of rendering them inoperative, namely, to refuse, if circumstances are such as to render such refusal at all possible, to recognize that 'resort to war' has taken place. This may be possible when for various reasons both parties to the dispute, although engaged in hostilities, attach importance to avoiding a formal state of war with its comprehensive circumstances. It

is in such cases that the question arises whether the other members of the League may, while remaining within the four corners of the covenant, maintain that there has been no 'resort to war' authorizing and necessitating repressive action as a matter of legal duty. The answer to this question must be based on legal judgment as to the nature of the acts of armed force which have occurred. The question whether a state of hostilities amounts to a state of war within the contemplation of the Covenant is a difficult question of law."

Put it plainly; the League did not wish a declaration of war by either side. Then bring it round to Mr. Grew's statement and we find, or assume, that American opinion is that "the undeclared war" was some sort of a ruse by Japan. Is this one of the facts known to American people? The reality is that China, Japan, the United States and Europe were unanimous in desiring to avoid a declaration of war, even while a war was obviously going forward. Public opinion, however, was ceaselessly enjoined by American writers, by politicians and by the State Department to regard Japan's non-declaration as something specially sinister. Let us be clear on this point and admit that China was particularly anxious to avoid the formality of declaration, thus avoiding the procedure under the rules of contraband and unlimited blockade, as embraced by the laws and usages of war. As for the United States, a declaration of war would have put into effect the neutrality act of 1937, with concommitant restrictions on American trade and commerce. A well-known writer on international affairs, I. V. Gillis, has explained another feature. He says:

> "*The United States is placed in a somewhat embarrassing predicament by the conflict between its obligations and duties under this Neutrality Act and those under the 'Pact of Paris.' The former provides for like treatment of both belligerents without distinction, whereas the latter contemplates punitive measures following condemnation of the violator of the pact—'any signatory Power which shall hereafter seek to promote its national interests by resort to war should be denied the benefits furnished by this treaty.' Just what those 'benefits' are is not clear.*"

Declaration Not Modern

Before leaving the subject of undeclared war, which is one of the "facts" upon which American condemnation of Japan seems to be based, we might refer to such an authority as Spaight who says: "It is of course, the aggressor who is bound to make the formal declaration of war." Japan was not likely to condemn herself under this principle, believing as she did all along that her military actions were countering the aggression of the Kuomintang. I could quote authorities as long as your arms to show that a declaration is unnecessary in modern warfare, with declaration as may be seen in the following excerpt from a document of the League Secretary-General:

> "From the legal point of view, the existence of a state of war between two States depends upon their intention and not upon the nature of their acts. Accordingly, measures of coercion, however, drastic, which are not regarded by the State to which they are applied as creating a state of war, do not legally establish a relation of war between the States concerned."

Legal authorities like Hershey say that a declaration is unnecessary and we find a clear note sounded by Senator Pittman who said:

> "*The act grants to the President the exclusive jurisdiction, in his sound judgment, to determine when a state of war exists as between two or more countries. This discretion was granted to him because governments to-day rarely declare war.*"

How does this judgment state in relation to the propaganda disseminated in America to vilify Japan merely upon the fact of non-declaration of war? Mr. Grew might be asked: Are the American people unanimous in the possession of the legal and military information about undeclared war, especially about America's constant official and commercial desire to avoid a declaration by either of the Asian combatants? I fear that most Americans have not received guidance "straight from the horse's mouth" on this subject. But they have been allowed to build up a condemnatory opinion of Japan on this point, without correction from editor, diplomat or politician.

Neutrals Have No Rights

From undeclared war as a means of propaganda against Japan in America we pass on to the rights of neutrals. From the beginning of hostilities America has harped on her rights and interests, regardless of the fact, which must be well known to the State Department, and to Mr. Grew, that neutrals have no interests whatever in territory over which war is being waged. This may sound like a pretty large statement, but it is capable of strong proof, and in America's own records. In Magoon's Reports Mr. Grew will discover, as quoted by Captain I. V. Gillis, that:

> "*A belligerent is not required to pay for damages to persons or property of enemies of neutrals which, being in the track of war, may be injured by the military operations.*"

Yet we find a long list of claims by the United States and other countries equally well informed on the laws and usages of war. In French law the principle is well defined by M. Marcy, a former Secretary of State, that "No Power assailing an enemy's country is required to discriminate between the subjects of that country and foreigners domiciled therein, nor can the latter, with any better right than the former, claim indemnity, except from the country under whose jurisdiction they have placed themselves." A cynic could read into this judgment the advice to Americans who have suffered during the war in China that they seek compensation from the Chungking government.

On the reference to America's history regarding losses in the war-torn territory of other nations, one will find a former Secretary of State, Mr. Seward, ruling:

> "*I am inclined to think, therefore, that Americans domiciled in Valparaiso, have no ground for invoking the intervention of the Government to require of either Spain or Chile indemnity for their damages incurred in the bombardment of Valparaiso (1866).*"

Mr. Seward emphasized the point, emphatically saying that "citizens of foreign states who reside within the area of war have no right to demand compensation from either of the belligerents for the losses or injuries they sustain."

Law Clear on Point

I say it without fear of contradiction, "legalistic" or otherwise, that in every Western State the principle is founded in law, precedent and practice, that no neutral country or national thereof, can obtain indemnification for any losses they sustain in war between other states and in their territory.

Despite this established principle the United States Government is making numerous demands upon Japan, many of which have no standing in international law. The American public hears only "the fact" of the loss, and the tale of the injury with emphasis on Japanese obligations, with the result that "public opinion" is formed which influences the government of the United States. This tail-chasing attitude solves no problem; but if the State Department were to tell the American people the nature of their obligations in a foreign war zone and inform them that they have no claims therein, except possibly in a case of deliberate and wanton attack, the Washington department would be doing no more than its duty, and relieving its Ambassador abroad of the onerous task of trying to collect non-existent debts.

Clearly American opinion is not so solidly based upon knowledge of the facts as Mr. Grew has been led to believe, although there can be no question but that Americans are earnest in their endeavors to find the facts, and when they do will give sound judgment upon them. Surely it must be the proper aim of the administration at Washington to give a lead to the people by dissemination of information about the rights of neutrals, and they might quote their own military rules on the subject, which I shall mention later.

When war develops between two states, neutrals are obliged to share in the losses and discomforts to the extent that their nationals in war zones may not recover compensation from the combatants under usages generally accepted under international law. Emphasis is put on this recognition by the written instructions to all Western armies. Seemingly all are agreed that non-combatants have few rights when their persons and interests lie in country being fought over. Even a diplomatic envoy or a consular official, although enjoying diplomatic immunity under normal conditions, is expected to endure the fate of a place subjected to military assault. The envoy may not be prevented from leaving a bombarded city, such as Chungking yet, as related in the British Manual of Military Law, if he voluntarily chooses to remain he must suffer the same treatment as other inhabitants. Nor can he leave whilst hostilities are in progress, but the besieging commander should allow his withdrawal as soon as the circumstances of a particular case allow. If this principle is applied to such places as Chungking and Nanking, where diplomatic officers have been exposed to danger, we can see that complaints for compensation or protests against encroaching bombs are of no legal avail.

The United States Army is well aware of the condition. Instructions to United States armies in the field say :

> "*Military necessity admits of all direct destruction of life or limb of armed enemies, and of other persons whose destruction is incidentally unavoidable in the armed contests of the war.*"

All this has direct bearing on the point I have been making, that the American public has not been fully aware of the permissible factors of warfare, and they may have arrived at conclusion largely upon the reports of the dangers to which their officials and citizens generally were exposed. Having assessed the dangers, sometimes resulting in wounding or death, to which foreign nationals were exposed in military areas, they would convey their feelings to official quarters, presenting a public opinion motivating United States protests to Japan. These considerations have resulted in much of the statements made by Americans of all walks of life to Mr. Grew on his recent tour. Had the law been clear, and the fact understood that the " innocent bystander " shares in the ravages of war, perhaps a more judicial attitude would have prevailed, or the neutrals withdrawn from danger.

Bombardment of " Open Cities "

The American public has been shocked by the bombardment of " open cities," so called, in which they have found hosts of supporters everywhere. It can be agreed that attacking commanders during the Sino-Japanese conflict have not lacked in feeling for non-combatants who have suffered so pitifully, as they did during the Great War and in the European struggle now proceeding. Yet there is a wealth of legal and military authority for such widespread destruction. In the instructions to the United States forces, set down in the manuals, is such a passage as this :

> "*Military necessity . . . . allows of the capturing of every armed enemy, and every enemy of importance to the hostile government, or of peculiar danger to the captor ; it allows of the destruction of property, and the obstruction of the ways and channels of traffic, travel or communication (such as the Yangtze River about which Admiral Yarnell protested so frequently and vigorously) and of all withholding of sustenance or means of life from the enemy ; of the appropriation of whatever an enemy's country affords necessary for the subsistence and safety of the army," although, " men who take up arms against one another in public war do not cease on this account to be moral beings, responsible to one another and to God.*"

War Always " Hell "

Many of the things done by the Japanese Army in China have been condemned by Americans, as explained by Mr. Grew, yet here we see to what extent they can legally proceed, always with the idea of shortening the conflict. The history of war is replete with great extravagances of cruelty, and when great wars were concluded the surviving armies still agreed among themselves that fearsome measures were necessary, and they incorporated them in their books of instruction. The flooding of Holland's lowlands in the past as a military measure and the *scorched earth* policy of Chiang Kai-shek were deemed admissible, even though the victims may have been more numerous amongst the people of the side using these extraordinary measures. Doubtless proof could be adduced that there was as great loss of life through the devastation of large areas by Chiang as by the operations of the Japanese forces. War has not ceased to be hell since General Sherman's day, and that is why such measures of better understanding between peoples are necessary, so well emphasized by the United States Ambassador.

Commanders are enjoined to take proper measures to warn the enemy of their intention to bombard a place (meaning a populous city) so that the non-combatants, and especially women and children, may be removed but it is no infraction of the law of war to omit thus to inform the enemy, says U.S. Army instructions. And how terrible it is to reflect on this passage common to all military procedure :

> " There is no rule which compels the commander of an investing force to allow all non-combatants, or even women, children, aged, sick and wounded, or subjects of neutral powers, to leave the besieged locality. The fact that non-combatants are besieged together with combatants, and that they have to ensure the same hardships, may and often does, exercise pressure on the authorities to surrender. . . . . A temporary resident is not entitled to different treatment from a permanent resident."

We learn, too, that if a besieged commander expels a number of non-combatants in order to lessen the drain on his stores and resources, the investing commander may drive them back again. These are the rules prevailing in western armies, not through any lack of humanity and morality, but because, whilst war is what it is, every means must be seized to expedite a conclusion.

Throughout this conflict there have been manifold examples of non-combatants suffering even more than the armed forces, and in some instances the defending garrison has not been wholly without fault. In the case of Canton it was evident, long before the attack on that port, that the Japanese would bomb the place. As far as can be learned there was no adequate and organized attempt to move the citizenry away. Around some of the stations and military objects, many thousands of people remained, not fully aware of their danger. The same story holds good of a number of other strong points.

I am not by any means seeking to justify the killing and wounding of innocent people, only to reveal that ever since man used force to settle his differences, there have existed the accepted conditions of war. The prophesied siege of Jerusalem, the siege of Rouen and many other historic instances will readily occur to students. The American people are not misunderstood when they lament such proceedings, but their protest might be directed to the problem as a whole and not toward one of the latest parties to instances of apparent inhumanity.

Foreign Protection

Despite the common usages of war which legally justified Japan's forceful measures, once war was invoked in response to Kuomintang aggression, the Japanese have consistently taken such measures as would minimize the exposure of foreigners and their property. Out of many such instances I can recall written instruction to all Japanese armies in North China that they should respect neutrals and their property ; foreigners were urged to display their flags prominently, although this system seems futile, for the observing power of color and form from the high altitude of bombers is slight. How an aviator is to distinguish the nationality of a flag, especially when flown on a staff, is not explained. In one instance, the bombing of Kaifeng, capital city of Honan province, Major Shigeyasu, a staff officer with the northern command, showed correspondents a copy of a marked map issued to all aviators engaged on that front. It delineated all missionary and commercial establishments. These compounds were often quite close to the railway depot. Later inspection of the bombed city showed the foreign places largely untouched. At the same time the Japanese pointed out how, from very reliable information, Kuomintang troops used these neutral properties ; either they took refuge within them or about the immediate neighborhood.

Indiscriminate bombing of " open cities " is a term largely used in dispatches, or employed by emotional writers. In the first place bombs are too valuable to be scattered widespread. They have to be usefully and economically employed. The idea of widespread terrorism as a means of disorganizing the enemy is an exploded theory, well established in the Great War and the Spanish war. Many of the so-called open cities had anti-aircraft guns and other weapons ; they contained arsenals, barracks, concentrations of troops, various government institutions, which were the avowed objectives of assault. Cases there may have been where restraint could have been used ; on the whole it is recognized that all cities, whether fortified or not, in modern practise are liable to attack. Witness the expectation of Berlin, London and Paris that air raids would be carried out, and the measures taken to

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Reorganization of the Central Government of China

By CHOW FU-HAI

Some rumors had it that the Central Government of China[*] would be established on October 10,[†] 1939, others that it would be inaugurated on November 12, the anniversary of the birthday of Dr. Sun Yat-sen, founder of the Chinese Republic, or that it would be formally established on January 1, 1940. Whatever the rumors, there is as yet no indication or sign that the Central Government would be established on January 1, 1940. This has given rise to various doubts and predictions in every quarter, and particularly the impression that the efforts of Mr. Wang Ching-wei to establish the proposed Central Government of China have met with failure. Observers have come to the conclusion that the Peace Movement initiated by Mr. Wang Ching-wei cannot now succeed. Those who oppose peace feel happy at such a prospect, while those who champion the cause of the Peace Movement, on their part, appear to be rather dismayed.

But have the efforts of Mr. Wang Ching-wei to organize the proposed Central Government of China really met with failure ? Is it really true that the Peace Movement cannot succeed ? Is it also really true that the establishment of the proposed Central Government of China is the ultimate aim and end of the Peace Movement ? Is it really to the interest of China to organize the Central Government ?

All these problems merit close study. Certainly the formation of a Central Government is not the fundamental aim of the Peace Movement led by Mr. Wang Ching-wei. The organization of the Central Government is only a transitory stage in the Movement. If, therefore, Mr. Wang Ching-wei had regarded the formation of the Central Government as the ultimate aim and only as an end in the Movement, and if he had totally disregarded the interests of the country, we all would have long ago assumed our official posts and would not have kept many people guessing for so long.

Some people have purposely circulated she rumor that Japan does not agree to the formation of the proposed Central Government, and hence its formation has been postponed or delayed. Others have circulated the rumor that because of alleged opposition from the existing Governments[‡] Mr. Wang Ching-wei has found it impossible to form a Central Government.

But it must be remembered that if our sole aim had only been to form a Central Government, or, in other words, if we had only wanted to gain political power through this means or, putting it bluntly, solely for personal aggrandizement, we could have avoided all the difficulties which are now confronting us and assure everyone that the Central Government would have long since been established by simply joining the Governments which have already come into existence. But our firm and irrevocable standpoint is that if the formation of the proposed Central Government could not serve the real interests of the country, we would rather perish than form such a Government. Conversely, if the formation of the Central Government will really serve the true interest of the country, we shall undertake that responsibility without evading its attendant difficulties. Rumors that the new government would be formed on October 10, on November 12, 1939, or on January 1, 1940, are nothing but rough-and-ready forecasts. In actual fact, no such decision has ever been taken.

It will be recalled that when I paid a visit to Tokyo during last October, various circles asked me the same question. I replied. "The formation of the Central Government of China does not hinge on the question of time, but upon the problem of terms. If terms are deemed acceptable for the salvation of China, we shall forthwith organize the Central Government. If, however, such terms are unacceptable, we will never organize the new Central Government."

This, then, was what I had told my Japanese friends, and I am now telling the same thing to my Chinese compatriots. This, then, is what Mr. Wang Ching-wei has proposed to do, and this is what we have all advocated.

I now propose to answer the question whether the formation of the proposed Central Government would really revert to the advantage of China.

Some people have said, "We are in sympathy with your Peace Movement, but why should you organize a Central Government ? Would China be converted into a second Spain of a year ago now that you propose to form a Central Government while the Chungking Government is still in existence ? Are you not proposing to change the war of national resistance into a domestic strife ? Are you, therefore, not lending yourself to the Japanese, who are trying to control the Chinese through the Chinese themselves ? "

Such questions appear to be logical and reasonable, but they are really not so.

If the war of national resistance could really achieve the promised final victory, we should not attempt to form a Central Government. If, furthermore, the Chungking Government were prepared to terminate the Sino-Japanese hostilities, and enter into peaceful negotiations with Japan—for the time being we shall leave out the question of third-Power mediation or direct negotiation—there would be no necessity for forming a new Central Government. But sad to say, there is no prospect of achieving the promised final victory. I had previously very clearly explained this question in my articles entitled "Retrospect and Prospect" and "The Merit and Guilt of the Kuomintang in the Past, and its Futur Position."

How can a Chinese citizen not be eager in the hope that his own country should achieve the final victory ? But facts are facts, and mere hopes cannot change the facts. It is not possible even now for the Chungking Government to talk peace. I, for one, do not believe that General Chiang Kai-shek has wholly disregarded the true interests of the country in favor of seeking personal power and gains. But it is even more incredible that he should have failed to realize the real import of peace or war. The fact is, he is no longer permitted to talk peace owing to his position and his present surroundings. Even General Chiang himself, I feel sure, will laugh at the idea of the withdrawal of Japanese troops from China being demanded before the commencement of peace negotiations, a condition which is contrary to logic and commonsense. History is full of examples in which termination of hostilities must precede peace negotiations, which again must precede withdrawal of troops, but none can be found in which withdrawal of troops had preceded commencement of peace negotiations. If Japan were first to withdraw her troops from China, would that not imply a victory for China, thus obviating the necessity for peace negotiations ? Being in that state of mind, how could the Chungking Government ever be prepared to talk peace with Japan ? Since the Chungking Government cannot achieve a final victory for China, and since it is at the same time not prepared to talk peace, we cannot permit ourselves to watch the extinction of China and refrain from forming a Central Government to fulfil the task of our peace mission.

It is our conviction that the organization of a new Central Government which is charged with the responsibility of fulfilling the peace mission is of benefit to China. At least, the formation of such a government will not do her any harm.

And why will it be of benefit to China ? Because the proposed Central Government to be headed by Mr. Wang Ching-wei can secure better peace terms for China. We are not unaware of the fact that self-interest governs international relations, and such relations cannot be altered by mere good-will or ill-will between States. But human beings are sensitive and susceptible to sentiment, and sentiment is not entirely devoid of bearing on international relations.

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[*] This article was released to the public on December 9, 1939. The author was formerly Minister of Publicity of Kuomintang in Chungking.

[†] October 10 or Double Tenth is the National holiday of China.

[‡] The Reformed Government in Nanking and the Provisional Government in Peiping.

In braving imminent dangers and in making a great personal sacrifice by coming out into the open to initiate the Peace Movement, Mr. Wang Ching-wei has not only sought to save the situation for China, but he is at the same time also helping Japan to solve her great difficulties. Such a lofty spirit and the noble task which Mr. Wang has sought to fulfil cannot but greatly move the hearts of the Japanese people. My two last trips to Tokyo and since then my frequent contacts with Japanese friends have enabled me to learn from them that they are greatly appreciative of the fact that the Peace Movement of Mr. Wang Ching-wei has exercised a great spiritual influence throughout Japan. The Japanese are a people who are very sentimental and sensitive to kind acts. This quality, which is common to the Japanese, is their virtue. For this reason, they feel that there is a vast difference psychologically and sentimentally between concluding peace with China through Mr. Wang Ching-wei who had totally disregarded personal safety for the sake of China, of Japan and of East Asia as well, and the Chungking Government which had engaged in bitter fighting with them for more than two years.

Therefore, the Japanese people are likely to make more demands of the Chungking Government, and likely to make less demands of the new Central Government. Judging from the Japanese national traits and prevailing sentiments, this is likely to be the case hypothetically. My own personal experience has also led me to make the same observation. I have been charged with the task of carrying on diplomatic negotiations with the Japanese. The duty which has been entrusted to me is of a totally different nature from that of the ordinary diplomatic negotiations. In ordinary diplomatic dealings, the parties to the negotiations usually seek to cater to their respective self-interests, without paying regard to the interests of the opposite party. During my negotiations with the Japanese, I found that, although we, as much as the Japanese, had given primary consideration to our respective national interests, we were also able to give consideration for the interests of the opposite party.

I had frankly told my Japanese confrères that both sides should display a special spirit ; that is, Japan should not approach China as a conqueror although China must not but regard herself as a vanquished State. I also expressed the view to the Japanese during my negotiations that we would under no circumstance tolerate any attempts by Japan to treat China as ready to be cut up and mutilated, as any such attempt would only blast all hopes of peace between the two nations. At the same time I had borne in mind that China has lost greatly in manpower and in territory, and in actual fact has been defeated. If, therefore, we were to continue to labor under the impression that we should lose nothing even though we were defeated, there would be no hope for peace. By not attempting to regard herself as a conqueror, it means that Japan will not seek to make any excessive demand on China and she will not force China to lose too much. By regarding herself as a vanquished State, it implies that China, on her part, is willing to make some slight concessions to Japan. If, however, Japan were able to subjugate China by force, or if China were able to drive out the Japanese troops, then the problem would take on a totally different complexion. But since neither the one nor the other could achieve its different objectives, it is necessary, therefore, for each of them to display the necessary spirit in order that permanent peace may be consummated between the two countries.

Due consideration had been shown by the Japanese during their negotiations with us, as to whether such and such terms were acceptable by China, and whether, if they are accepted, it would enable the new Central Government to continue to function and whether it would obtain the complete understanding of the Chinese people. We, on our part, had also shown due consideration to the Japanese, and had asked ourselves whether, if such terms were rejected by us, it would not arouse the opposition of the Japanese people against the Japanese Government, and precipitate an internal crisis in Japan.

The display of such spirit and consideration for the interests of the opposite side would never have been possible had negotiations been carried on between Tokyo and Chungking. And, precisely, without such a spirit, the peace terms that Japan would impose upon China would be comparatively severe, and the damage that might be done to China would decidedly be greater in consequence. If we are to view the situation very dispassionately, we will readily realize that if negotiations were conducted between the Chungking Government and the Japanese Government, they would be dominated by a spirit of revenge and enmity, whereas our negotiations with the Japanese were carried out in friendly spirit with just peace as an ultimate aim.

Although we have entered into negotiations with the Japanese in friendly spirit we have often met with difficulties, but we are still able to find some solution to the various problems. At present we have not yet arrived at the final stages ; although, generally speaking, the negotiations cannot be said to have satisfied us completely, we are of opinion that even those terms which we have so far secured are not what the Chungking Government could obtain. Under such terms, even though Japan stands to make certain gains and China stands to lose to some extent, such losses as China is prepared to make will not serve to impair her national existence, independence and freedom.

Although we are still unable at this juncture to make public the terms under which we have carried on negotiations with the Japanese, I can guarantee that they are terms which the Chungking Government could not hope to obtain, unless China were able to score a final victory over Japan. I am not trying to deceive anybody ; we are not such fanatics as to compel posterity to erect iron statues* to perpetuate our memory.

Some will, however, say that the terms offered us may be very favorable, but how could we guarantee that the Japanese, on their part, will observe them after we have formed the Central Government ? True, this is an anxiety which everyone should share with us. But are we really so impotent and powerless as that ? At least I believe we are more the master of the situation in this respect than in the fulfilment of the expected final victory. My constant contact with the Japanese Government leaders and the more enlightened Japanese people has convinced me that they are sincere. The fact that the Japanese and ourselves have been haggling over the proposed peace terms for a considerable time goes to show that the Japanese are sincere.

Although the negotiations have been carried on in a most friendly spirit, both sides have stood firm on their standpoint. This explains why negotiations have been carried on for so long. Judging from their unflinching insistence on the points proposed by them, I can see that the Japanese are determined to abide by the proposed peace terms. If the Japanese are not sincere in carrying out the peace terms, why should they have haggled over them ? In other words, they are determined to carry out the proposed peace terms, and hence they are careful about such terms. The Japanese have hoped to see the Central Government established at an early date. If they were insincere, they could have promised us anything that we might have asked for, in order to induce us to inaugurate the new Central Government and then withdraw every word. But this is not the case. Both sides are careful about the details of the proposed terms. For this reason, the formal inauguration of the Central Government has been delayed. Although they wish to see the early inauguration of the Central Government, they, on the other hand, wish to have the peace terms clearly defined and prefer the latter to be given prime consideration. It goes to prove that the Japanese are prepared to carry out the proposed terms and are not simply trying to deceive us.

I feel we must not fundamentally doubt the sincerity of the Japanese. If we do, then the logical thing would be to fight against Japan to the bitter end and for ever to refuse peace. If we believe that peace must finally be concluded, then neither the Japanese should doubt our sincerity nor should we doubt theirs. If the Japanese were insincere in concluding peace with the new Central Government, would they be sincere in talking peace with the Chungking Government ? We do not propose to fight with Chungking over the task of conducting negotiations. If Chungking would come forward to conclude peace, we should feel more than grateful and would pray for its success. I am only saying that if we fundamentally doubt Japan's sincerity, we can only fight to the bitter end. Then it is to be presumed that, when the new Central Government negotiates peace with Japan, the latter, of course, would not show any sincerity and, similarly, when Chungking should negotiate peace with Japan, the latter also cannot show any sincerity. Supposing that Japan has sincerity, why should we feel any anxiety or doubt at all now that the new Central Government is to conclude peace with Japan while Chungking refuses to do so ?

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*This refers to the Chinese custom that an iron statue would be erected for the person who should be considered to have betrayed the country.

As I have stated in the foregoing, the Japanese high official circles are sincere, although the ordinary staff members have to be considered. There are, of course, enlightened people in Japan, but there are also many people who do not understand. Whether in discharging peace terms they will show equal sincerity, I am as yet unable to make a positive reply. If they should be insincere, various difficulties or obstacles would be placed in the path of the execution of peace terms. At least we would feel rather unpleasant. But so long as the higher official Japanese circles are sincere, they could influence those below them to abide by the proposed peace terms, and so long as the enlightened people of Japan are sincere, they could give the less-educated classes a better understanding of the situation. I am not at all pessimistic regarding this point.

It is by no means an easy matter to forget the hatred between the two peoples engendered since the first Sino-Japanese War in 1894. Therefore, there must be great difficulties and obstacles for us to overcome when we intend to discharge this historic task.

Another question is this: How should we be able to enforce the terms which we shall arrive at with the Japanese and what guarantee is there that we can enforce them? Unless China were able to achieve her final victory, which thereby postulates a totally different question, what guarantee has the Chungking Government that she could enforce the strict observance of the peace terms by Japan? To our mind, there are only two alternatives: the first is to seek the mediation of Great Britain and the United States, and enforce the terms by international pressure; the second course would be to rely upon armed might to enforce the terms. Both alternatives are, however, absolutely undependable. If international compulsion could be effective, the League of Nations would have been able to successfully deal with the Sino-Japanese issues, and the Nine-Power Treaty would have already saved China. To depend upon international compulsion to enforce peace terms is either to deceive others or to deceive ourselves. Some still cling to the hope that the incident when Russia, Germany and France forced Japan to return the Liaotung Peninsula to China in 1895 may be repeated, but this hope can never be realized to-day. Armed might is also no guarantee to the enforcement of peace terms. To pursue the latter course would be tantamount to saying that if Japan fails to abide by her promise, China would again go to war with her. But it is because we have been defeated on the battlefield that we now seek to talk peace with Japan. For us to fight again is only to be defeated a second time. If Japan were insincere in carrying out the peace terms, she would not be afraid to fight again. Therefore, to say that our present military strength is a guarantee is also incorrect.

But are we totally lacking in any guarantee? I feel that the kind of guarantee that we possess is even far better than international assistance; it is mightier than even the guarantee which a mighty army can provide. That guarantee is a spiritual force; it is our determination.

The comrades led by Mr. Wang Ching-wei have totally disregarded their own personal interests, for they are actuated by the interests of the country. If the Japanese should fail to observe the peace conditions after the formation of the Central Government of China, we would all resign *en bloc*. Our motto is, "If the terms are not carried out, we will not serve in the government." This is our determination and this is our safeguard. This safeguard is more powerful than anything else. Some people have said that as soon as we enter the proposed Central Government of China, we would be forced to continue to serve in the Government even should we change our mind. I do not believe that can be true. To my mind, our freedom to serve in the Government may not be perfect but our freedom to resign from it is perfect. Indeed, before the withdrawal of the Japanese troops, we would remain in their sphere of influence, but if we have the determination of braving death, we shall always retain our perfect freedom of refusal, and at the most, as a result of compulsion, we would be all killed. It may be pointed out that if we were really afraid of death, we would not have departed from Chungking. Frankly speaking, revolutionaries like us were born in poverty, and are unmindful of our own future. It may be said of us that none could ever hope to restrict or control us by threats of death. If the Japanese should fail to abide by the conditions agreed upon, we would all resign from the government. Mr. Wang Ching-wei and all his comrades are fully determined to pursue this course, and I do not believe the Japanese are insincere. Should the worst happen, we would say "Sayonara" to the Japanese and ask them to invite other more capable men to co-operate with them.

Unless Japan wishes to cause the extinction of China, which is an entirely different question altogether, she must co-operate with China, realizing that she is neither able nor has the power to overcome and eliminate China. To achieve the ends of co-operation, Japan must inspire confidence among the Chinese people that she has sincerity, that she is not dictated by Imperialism, and that she respects China's national independence and freedom.

Mr. Wang Ching-wei and his comrades have staked their lives by asking and advocating Sino-Japanese peace and Sino-Japanese co-operation. If the Japanese should fail to display sincerity towards Mr. Wang Ching-wei and his comrades who have struggled for what they are advocating, who else thereafter will ever believe in Japan again? Who else, thereafter, will ever co-operate with her? What would Japan do if this should come to pass? Will she seek the services of disgruntled and disappointed Chinese to serve as her catspaws? If so, could such men ever hope to inspire the confidence of the Chinese people and their support? If not, could such men co-operate with Japan in bringing about the termination of the Sino-Japanese imbroglio and to clear up the present Sino-Japanese situation? If not, would Japan have any other alternative?

From the standpoint of the Japanese, it is to be seen that the Japanese have not only the moral obligation to fulfil the peace conditions, but they should also do so in consideration of their own interests.

For this reason, I firmly believe that this sort of spiritual guarantee has even more force than the guarantee provided by a mighty army. Doubtless the unexpected and the unpleasant will occur in the future, but whatever we now do or shall do, will be guided by our consideration for the real interests of the country. We will not treat the matter of forming the proposed Central Government lightly, nor, on the other hand, will we resign from the government in the same manner. If, however, the time should come when, after we have done our utmost and yet should find the situation unbearable, and when we find ourselves unable any longer to carry on, Mr. Wang Ching-wei will fearlessly lead his comrades in a general resignation.

In the foregoing, I have pointed out that it is to the advantage of China to form a Central Government. At least its formation will cause no harm to China. If the formation of the Central Government should mean further losses and more sacrifices to China, it would certainly be harmful to her. For the time being, we will not stress the point that the formation of a new Central Government would lessen China's loss and sacrifice but we are confident that its formation will not mean greater sacrifices and losses by China. If such is the case, how could it ever aggravate the conditions now prevailing? In other words, the formation of the new Central Government will not cause any harm to China.

If we had attempted to form a new Central Government in the areas controlled by the Chungking régime, just as the Chinese Communists formed their Border Government in the North-west provinces, it might cause a deterioration in the present situation, or lead to the collapse of the Chungking régime. But the new Central Government which we propose to establish will be located in the occupied areas which have been lost by China for more than two years. If we refrain from forming a new Government in the occupied areas, that would not aid China to achieve her final victory; on the other hand, by establishing a new Government in the occupied areas, it would not cause the failure of China's resistance which is brought about by other totally different factors, and has no relevance to the formation of the new Central Government.

Large numbers of Chinese people and troops, admittedly, will rally to the support of the Central Government, and it would appear that this would be damaging to the interests of the Chungking régime. But such a rally will only be a manifestation of the sentiments of the people and the war-wearied troops. To disregard the prevailing true sentiments and to put the blame on the formation of the new Central Government must be regarded as an attempt to disregard the real facts. The new Central Government will not be supported by the people and the troops, if the latter do not harbor peace sentiments. Therefore, under the present factual and psychological circumstances, what harm is there in forming the proposed new Central Government?

Now, let us discuss the question from the viewpoint of external relations. I have pointed out that in an attempt to readjust Sino-Japanese relations, we have to make certain concessions to Japan, but a close study of the real facts will reveal that we are trying to take back something from Japan. Of course, these things originally belonged to us, but they are now in the hands of others. If we cannot, by force, repulse the Japanese, these things will remain in their hands. Since there is no likelihood that we can do so, it is possible that these things will forever remain in their hands. It is our aim and intention to restore these things to ourselves. Out of factual consideration we will not be able to get all these things back but we shall try to get back as much as possible. It is more logical to judge how much we can get back rather than to say how much we have given away. Granting that the formation of the Central Government would not enable us to get anything back at all, it would certainly not make us give more away because all the things are now in the hands of the Japanese and we actually have nothing which can be given away. Therefore, if the formation of the Central Government can be of no benefit to the country, how can it be harmful ? At the most, the situation on the whole would remain the same.

We are not toying with national affairs, for we have carefully thought over the problem whether the formation of the Central Government would or would not be of benefit to China, and we have decided that it would bring real benefit to her. At least, it will lose nothing and therefore it will not be injurious to the interests of the country. The present situation, when neither peace is attempted nor war really prosecuted, means certain extinction of China. What we now propose to do is to save China and to bring about her resurrection. Even if we should fail, it would not aggravate the situation because nothing can be worse than extinction. Thus, after careful consideration, we are determined to form the Central Government. We are not so fanatical as to sacrifice the real interests of the country for personal aggrandizement.

It is unavoidable that the Central Government will stand in opposition to the Chungking Government. If the peace terms which we will obtain will not impair the national existence of China, her independence and her freedom, and if these terms can be explicitly carried out step by step, then it might be said that the aims of our national resistance have been realized. This means also that the reasons for our resistance no longer exist. Why, then, must we continue to be engaged in a meaningless war and thus make more meaningless sacrifices ? Needless to say, public opinion will still be muzzled by the Chungking régime for a short time to come. Consequently, the people will not be able to see the facts and would not dare express their real sentiment nor take appropriate steps, but after a time they will understand the real situation, and the Chungking régime will be compelled, through pressure of public opinion, to merge with the Central Government, and thus achieve national unity. As one who has been in Chungking, I know full well that the majority of the military leaders and high government officials are in favor of peace, but they fear that the peace terms may be too severe and that Japan could not be trusted. It is quite natural for every Chinese who has the real interests of his country at heart to be anxious about this problem. If it could be proved by actual facts that the peace terms were not exorbitant, and that Japan is really sincere, who then would be unwilling to see China become united ? Mr. Wang Ching-wei and his comrades, to be sure, are not motivated by any ambition for personal power and position and thus would not hesitate to welcome the merging of the two governments.

Some people have said that Mr. Wang has kept the door closed, or that he is being surrounded by his lieutenants, including and particularly myself, who are alleged to have barred the road for the able men. Nothing could be more worthless than such a malicious accusation. To our mind, to join the Peace Movement and to advocate Sino-Japanese co-operation is an obligation, a duty, but certainly not a privilege. It is our opinion that this noble task and sacred duty can only be discharged by the largest possible number of people, and it cannot be completed by a few individuals. We welcome the co-operation of all those people in Chungking who share the same views with us.

It will be remembered that, in 1927, the Wuhan and the Nanking governments were opposed to one another. In 1930 the Peiping and the Nanking governments were likewise standing in opposition to each other. But, in both cases, the two opposing camps were subsequently merged into one united national government. No doubt, these events, involving only China's domestic politics, were somewhat different to the present case which is mingled with foreign relations. But political changes are ever rapid. Half a year ago who would have dreamt that the Nazis could have entered into co-operation with the Communists ? But Germany and Soviet Russia have actually joined hands ! If it were possible for such changes to have taken place between two nations, is it unreasonable to expect that we, belonging to the same country, will one day bury our differences ? What I hope is that a difference in policy should not be permitted to precipitate personal quarrels among ourselves. A man can live but a few score of years, and he will thereafter be dead and buried. Why should not everyone try to serve the true interests of the country instead of quarrelling with one another ? Apropos of this question, may I be permitted to digress from the main subject. The quarrels between members of our Special Service Corps and the Special Service Corps of the Chungking régime is a matter which has caused us painful feelings. We have advocated Sino-Japanese peace, but before we have achieved our purpose, we are already engaged in internal quarrels. This is not what we are willing to see happen. The Chungking régime must be held responsible for this. We have never sent a single man to the interior areas to carry out assassinations. Chungking, on their part, had sent assassins to Hanoi in an attempt to kill Mr. Wang Ching-wei, to Hongkong and Shanghai to murder our comrades. What we have actually done is to resort to self-defence. Of what benefit, it may be asked, are Chungking's actions to the general situation and to the real question at issue, besides arousing personal differences ? Even if Mr. Wang should unfortunately meet with an accident, his comrades would continue to carry on in order to achieve the objectives they have advocated. The Peace Movement will not cease. If others should fall victims to assassination, there can naturally be no effect on the Movement. Of what good, then, to Chungking will such assassinations be, besides giving the authorities a temporary feeling of satisfaction ? But more than that, many who had been sent by Chungking to assassinate our comrades have now joined the Peace Movement and become our strong supporters. This fact may serve to make Chungking conscious of their grievous mistakes and their wrongs. It thus goes to show how really meaningless and worthless are such personal quarrels.

If only everyone were able to regard true national interests as the only important thing to serve, and personal feuds as meaningless and worthless, we feel sure that the disagreement between Chungking and ourselves would not continue to exist. There might still be a few who yet hold to their personal prejudices, but they would not be able to hold out against the great odds of public opinion and pressure. This being the case, I do not give up hope for the national unity of China and I am also not at all pessimistic. This observation is based upon a philosophical prediction and a scientific analysis of the present situation.

In the foregoing, I have attempted to give explanations on the prevailing doubts and, finally, I shall touch the question of the time for the formation of the Central Government. Contrary to the propaganda conducted by Chungking, I may state that efforts to form the Central Government have not failed and, contrary to rumors, have never ceased but are in progress as we are still negotiating terms with Japan. If such terms fail to safeguard the national independence and freedom of China, we will not do anything, as I have already pointed out. Our object is to save China from her present critical condition, and if the terms would not allow us to fulfil our object, why should we form a Central Government ? Do we really want to be traitors ? Having been entrusted with the task of carrying on negotiations with the Japanese, I may say that with regard to the terms, there are still a few problems on which an agreement has yet to be reached. Both sides, however, have displayed a most friendly spirit, and there is every prospect of a final agreement being reached before long, and as soon as a definite understanding has been arrived at on the proposed peace terms, we shall establish the proposed Central Government for the purpose of discharging our sacred mission.

In conclusion, I wish to reiterate that the formation of the Central Government is of benefit to China, that it is assured of every success, and that the time of its inauguration is imminent. It is hoped that all Chinese patriots will rally to the support of the new Central Government and thus assist in discharging her sacred mission.

What's To Be Done in China?

By C. J. LAVAL

MANY observers of world affairs in Japan, and in China as well, must find themselves nonplussed when they read in their newspapers about present-day hopes and aims enunciated by leading statesmen of the great Occidental powers. The asservations of the leaders in Western lands have a common quality in that all of them foreshadow vast changes in the course of events in their part of the world. Thus the statesmen of Great Britain and France tell of a new order in Europe toward which they are striving, and, echoing the words of these diplomats one reads in *The Times* of London that " in creating an international order capable of perpetuating peace, we must be prepared for far-reaching changes, and it may well be that the national sovereign State, as Europe has known it for 400 years, will consent to modifications hitherto regarded as impracticable."

Cordial endorsement and agreement with all this is heard from the other side of the Atlantic in the words of the American Secretary of State, Mr. Cordell Hull, who recently emphasized the view that " upon the cessation of hostilities in Europe, the United States would have to bring all her influence, both moral and material, to bear in the creation of a new world order based on law, in order to prevent further economic and social conflicts between nations which would bring about another war."

In contemplating these lofty purposes that have lately taken form in Western lands the disconcerted observer in the Far East has reason to ask several questions. Is it contended then, such an observer may ask, " that great principles have geographical limits ? Can it be that principles which are brought into operation in Western lands cannot be applied on the other side of the planet in the Far East ? Have the great spiritual values of humankind shifted from their place of origin half around the world and now radiate only from Occidental lands ? Have the passing decades brought changes only in Occidental lands and left East Asia in the *status quo ante* ? "

If great changes in the affairs of mankind are accepted in the Occidental world as inevitable, and if achievement of a new order in Europe is an end desirable and praiseworthy, why, the Far Eastern enquirer wants to know, are changed conditions in the Far East seen by Western peoples as iniquitous, and why should a " new order in East Asia " be deemed to be reprehensible ? If the Biblical injunction be observed in attempting to answer these questions, no stones can be cast.

China's Dire Plight

Living conditions in China in recent times have been brought more nearly to a state of utter chaos than has been seen in the land since the time of the Taiping rebellion in the middle of the preceding century. While the livelihood of the people daily grows more precarious, communications, commerce and finance all are disrupted and disorganized in the face of rising costs and shrinking values. The masses of rural China, long since made bankrupt by official and other exactions, have won free at length from the grasp of the tax-gatherer, the money lender and the landlord only to fall into the more sinister clutches of the guerilla.

For all this present-day misery in China Japan is blamed offhand by a large part of an unthinking world that either is ignorant or forgetful of historical sequences. Even the conditions in China that closely antedated the present hostilities are ignored. Japan's efforts in 1936 and through the early months of 1937 to adjust her problems with China and to bring about amity and a mutual prosperity through co-operation grew out of compelling causes in the form of a highly mechanized Soviet army of a half million men on the Manchurian border. Causes and consequences in the train of events of the past two and a half years are clear. Japan's peace efforts in China failed when Moscow scored by forcing the Chinese militarists to join hands with the Chinese Communist forces in an alliance openly dedicated to war with Japan, which followed on scheduled time. The logical consequence of to-day is that the single national entity placidly satisfied with existing conditions in China and hopeful for their continuance, is the Moscow Comintern.

It is certain that all Chinese elements, and every other racial and national interest in East Asia, all to-day ardently desire changed conditions and betterments, whether or not such changes be called a " new order in East Asia, " which, in fact such changes would be, or are brought about under another designation.

It is to be accepted that any change to a *status quo ante* in China, any return to the " old days," or the earlier systems, is completely beyond range of possibility, and memories of the incessant internal civil warfare in China through the twenties, and before, make any shift backward to things as they used to be, undesirable.

Reconstruction, rehabilitation and restoration of orderly peaceful processes of living in China measure into a task whose magnitude may well call for the resources and brains of every national group with interests in East Asia. China, alone, with depleted resources could never hope even to undertake beginnings of such a task, whatever favorable conditions to do so might be brought about.

Credits and Debits

The Chinese are a people of singular virility, and they possess many qualities that must command admiration. In large measure they have that precious human quality of a quick sense of humor, which survives in times of adversity in a remarkable way. They are frugal, hard-working and industrious to a degree past Western understanding. They are contented with pitifully little, and they face calamity with stoic calm. The Japanese have learned much from the Chinese in the past, and they can learn much more from them in the future. From the Japanese the Chinese may acquire the traits they lack so conspicuously that are essential for the building of national greatness. The record of centuries fails to indicate that the Chinese have any special aptitudes in fields in which close co-operation and co-ordinated effort are essential for the achievement of great works. In some far distant era of the past the Chinese, like the Greeks, at one time may have possessed genius for the creation of vast enterprises, powers of organization and co-ordination, administrative abilities and talents of like nature. If the Sons of Han were ever so gifted, these powers went into eclipse about the time of the Manchu invasion, and have since practically vanished. The huge industries, the great commercial concerns, extensive public utilities, national systems of roads, and other forms of communications, that are commonplace in other lands, have never existed in China as Chinese enterprises, and beginnings that have been made with such things owe their being to alien genius and activities. Where these flourish in China they remain under alien control. Under the curse of nepotism and the consequent corruption it usually breeds, and oppressed by the twin evils of internecine warfare and mal-administration of public affairs purely Chinese enterprises of any major calibre commonly have withered and disappeared.

Towards the close of the preceding century two important shipping enterprises were founded in the Far East, one of these, the greatest of its kind in Chinese history, was the China Merchants' Steam Navigation Company, which began operations in 1872. The other, founded fifteen years later, was the Japanese Line, the Nippon Yusen Kaisha. Through the years into the first part of this century both of these enterprises flourished and progressed. Then corruption, mismanagement, interference from conflicting governing bodies and civil warfare at length destroyed this great Chinese undertaking. The Nippon Yusen Kaisha is one of the world's great shipping concerns, with an aggregate tonnage afloat that rivals those of the greatest shipping companies of the world. About twenty years ago the Chinese with abounding optimism set out to build a new railway which, had it ever been completed, would have taken rank as one of the greatest engineering feats of all time. The line was to run from Ichang through the formidable ranges of mountains that frown down upon the famous Yangtze Gorges and penetrate into the rich Province of Szechuen to Chungking, Capital of present-day China. As initial steps in this great project the Chinese at once erected a freight station and laid a few lengths of steel rails leading to right of way excavation work that had begun at this point. At the other end of the line at Chungking they erected a brick passenger station. No rails were laid in Chungking, but the station was fully equipped, and even printed railway tickets were provided in a ticket office to await passengers on a railway that was never built and that to-day is all but forgotten.

The Foreigner in China

Europeans were on the scene in the Far East long before the Americans arrived. The British and the French and the other Europeans who were early-comers learned well the hazards and the complex intricacies of Chinese business methods long before the Americans sought to set up shop in China on a dollar diplomacy basis and do business with the Chinese. The British and the French discovered, and in time the Americans also learned, many times sadly, that the price of commercial survival in China was the close retention of control of business enterprises that were begun. All these pioneers in Far Eastern commerce, who often sought to merge their undertakings with Chinese interests, came to understand that when the control of jointly-owned enterprises was surrendered to Chinese administrators—to comply with the unfailing insistent demands of the Chinese—then such enterprises almost inevitably sank under pressure of the same influences that ever have been so fatal to large Chinese enterprises.

In the present-day unhappy situation in China the Chinese, the Japanese and all the other major racial and national interests agree in the common belief that the work of rehabilitation and restoration of order should be begun. All of these interests realize, too, that relief from the present-day adversities only can be found quickly after this job of rehabilitation actively is begun. Probably all of these interests also realize that no relief can be gained through any complete Japanese withdrawal from the scene. The question remains in what manner can the problem be attacked and real work started. What is needed obviously is money, technical assistance, confidence and credit. Until the situation brought about by the war in Europe is adjusted no large scale co-operation from the European powers can be expected. Japan and the United States, possibly with some aid from Canada and Australia, alone remain to deal with the problem, and it will be unfortunate for China and for all the Far East if the present tension between the United States and Japan operates in the way to prevent co-operation in China between these two Powers working together. These two Powers actively co-operating with the Chinese can quickly begin to change the face of things and usher in an era of prosperity greater than China has ever before known. If the ill-feeling of the Americans toward the Japanese defeats efforts to achieve joint action in China than Japan alone would be forced to face the problem. Whether Japan could prove equal to the task, and necessity already has compelled her to begin it, is problematical. In such case inevitably progress in effecting betterments in China would be slowed down, and the task would stretch through decades, even if ultimately it might be performed.

The Prospects for Peace

With the opening of the New Year some signs and portent are to be discerned indicating that the conflict that began in August, 1937, is nearing an end. It is certain that the so-called "Peace Faction" of Chinese led by Wang Ching-wei, who was formerly second in command in the National Government of China, is making definite progress and winning new followers daily. Every Chinese commercial interest shares the hope of the destitute masses, that the day when the fighting ends may be near at hand. It is assured that a new Government sponsored by those Chinese who desire peace on the liberal terms that were offered by Prince Konoye, when he was Premier, soon will be organized. This new government may be ignored by the rest of the world, but it will be recognized by Japan, and it is Japan and China that have been doing the fighting. In view of the fact that long prolonged negotiations have been going forward in China and Japan, it may be accepted that precise peace terms have been agreed upon. While those elements within the regime in Chungking that are subservient to Russian influence will continue to erect every barrier against moves to end the hostilities, it is no secret that other elements in the Chungking regime, of necessity remaining silent, still lean strongly toward those seeking peace. Some co-ordination between all of these Chinese groups that are weary of warfare may be expected. A distinct possibility that may serve to relax the tension between Japan and United States opening the way to joint co-operation of these powers with the Chinese toward the re-building of China, is mediation by the United States that has already been asked for by a Chungking spokesman. Assuredly, any proposal along this line that might come out of Washington would receive studious attention at Tokyo.

The problems of warfare in China and the differences between Japan and the United States are closely interwoven. A gesture by Washington that Tokyo cannot fail to take as a favorable omen was made when the assurance was given that expiration on January 26 of the Trade Treaty which the United States abrogated would effect no profound changes in American and Japanese relations. Although commerce between the two Powers may be expected to move as usual, the forthcoming Treatyless period, with relations on a month-to-month basis, bristles with uncertainties both for Japan and for the United States.

The thought occurs that if the working out of an adjustment of relations between Japan and the United States could be left entirely in the hands of the commercial and financial leaders of the two nations, their differences swiftly would evaporate and a mutually satisfactory agreement could be reached. In such a contingency the American business leaders might be moved to send their diplomats and politicians on a fishing trip—preferably a whaling expedition—then unconcerned with any partisan fanfare, or the "church vote," they could approach the crass realities of the situation with the Japanese who themselves would be free to act unhampered by any political or militaristic influences. Thus at length might the long-sought peace and prosperity be brought to East Asia.

A French General's Opinion of Quinine

During the Great War, from July to December, 1916, 60,000 French soldiers of the Macedonian army went down with malaria; 20,000 men had already been sent back to France and there were only 20,000 men left in the front line. General Sarrail then wrote to the War Minister: "My army is demobilized in the hospitals!"

Following this terrible epidemic, the French Government sent out the brothers Sergent, the well-known malaria specialists, with a view to preventing the complete wiping out of the French army by malaria parasites. A system of complete treatment by quinine was organized and men who tried to avoid it were severely punished. Strict regulations were enforced so as to ensure the success of the anti-malaria campaign.

In a General Routine Order, addressed to the army doctors General Vassart made the following statement about the malaria epidemic and treatment by quinine: "In the fight against epidemics, carelessness is the most difficult enemy to vanquish. The orders concerning the proper taking of quinine must be carried out by all, conscientiously and without discussion. Discipline and military duty demand this." General Vassart well knew where the real enemy was to be found. At that time, he certainly did not have the support of the Malaria Commission of the League of Nations, which, after prolonged research work, issued the following prescription: as a preventive measure, take six grains of quinine every day during the fever season, and for treating an attack, a daily dose of 15 grains to 20 grains of quinine for five to seven days. On page 124 of its report, issued in 1938, this Malaria Commission stresses the fact that the harmlessness of quinine makes it a suitable drug for administration by subordinate personnel without constant medical supervision, whereas such supervision is essential in the case of synthetic products.

That the malaria mosquito did not succeed in completely destroying the French army in Macedonia was certainly due in a large measure to the perspicacity of the army commanders, General Sarrail and General Vassart, who saw that the treatment by quinine of the entire army to preserve it from malaria, was both a duty and an imperative necessity.

Our Navy Now and in Prospect

By Lieutenant-Commander BERNARD L. AUSTIN, U.S.N., Press Relations Officer, Navy Department

The maintenance of close contact between the diplomatic branch of our government and the armed forces is conducive to the proper fulfilment of their respective duties. In a world which unhappily persists in respecting might more than right, the nation's military and naval forces are both supplementary and complementary to the diplomatic service.*****

The facts upon which are based our need for a navy are well known to those of the Foreign Service. The chaotic condition of world affairs which makes it necessary to be prepared against various uncertainties is to them an open book. In this article it is intended to present facts which, projected against a background of comprehensive general knowledge, will give a clear understanding of our Navy's condition now and in prospect.

Much has been said about our billion dollar naval building program, rotogravure sections have depicted the launchings of new ships, and imposing figures have appeared in print about our naval rearmament. But figures are often misleading or confusing unless one has a basis for evaluation. In a democracy such as ours it is highly important that such a basis be made available, for otherwise the people who determine national policies and provide the means for national defense can hardly be expected to take timely and adequate steps to avoid grave mistakes.

It is one thing to know that we have 546 operating vessels in our Navy and another to know that only 348 of this number are commissioned naval vessels. Some of these 348 can hurl a broadside of 19,000 pounds of steel whereas others can only deliver a 13 pound shell. Strictly speaking, only 236 of the 348 are fighting types and of these 236 fighting craft but 131 are underage ships. In addition to the operating vessels we have 138 decommissioned fighting craft which, in an emergency, could be put into service. All of these are overage, 110 being destroyers and 28 submarines, of World War vintage.

Let us now consider each fighting type beginning with the battleship. It is a large armored ship mounting guns greater than eight inches in caliber. This type combines the greatest concentration of fighting strength and power of survival possible in one

New Construction

The following U.S. Naval vessels were under construction on September 1, 1939 :

Type, Number and Name	*Contractor*	*Keel Laid*	*Launched*	*Date of Contract or Order*	*Months to Build*
BATTLESHIPS					
BB55 North Carolina	New York Navy Yard	10-27-37	—	8- 1-37	49
BB56 Washington	Philadelphia Navy Yard	6-14-38	—	8- 1-37	52
BB57 South Dakota	New York SB Corp.	7- 5-39	—	12-15-38	52
BB58 Indiana	Newport News SB & DD Co.	—	—	12-15-38	52
BB59 Massachusetts	Beth. Steel Co. (Quincy)	7-20-39	—	12-15-38	55
BB60 Alabama	Norfolk Navy Yard	—	—	4- 1-39	52
BB61 Iowa	New York Navy Yard	—	—	7- 1-39	49
BB62 New Jersey	Philadelphia Navy Yard	—	—	7- 1-39	52
AIRCRAFT CARRIERS					
CV7 Wasp	Beth. Steel Co. (Quincy)	4- 1-36	4- 4-39	9-19-35	38
CV8 Hornet	Newport News SB & DD Co.	—	—	4-10-39	34
LIGHT CRUISERS					
CL50 Helena	New York Navy Yard	12- 9-36	8-27-38	2-16-36	41
CL51 Atlanta	Federal SB & DD Co.	—	—	4-25-39	36
CL52 Juneau	Federal SB & DD Co.	—	—	4-25-39	38
CL53 San Diego	Beth. Steel Co. (Quincy)	—	—	4-25-39	39
CL54 San Juan	Beth. Steel Co. (Quincy)	—	—	4-25-39	41
CL55 Cleveland		—	—	—	—
CL56 Columbia		—	—	—	—
SUBMARINES					
SS193 Swordfish	Mare Island Navy Yard	10-27-37	4- 1-39	2- 1-37	30
SS194 Seadragon	Electric Boat Co.	4-18-38	4-21-39	7- 6-37	29
SS195 Sealion	Electric Boat Co.	6-20-38	5-25-39	7- 6-37	31
SS196 Searaven	Portsmouth Navy Yard	8- 9-38	6-21-39	8- 1-37	30
SS197 Seawolf	Portsmouth Navy Yard	9-27-38	8-15-39	8- 1-37	32
SS198 Tambor	Electric Boat Co.	1-16-39	—	8- 2-38	29
SS199 Tautog	Electric Boat Co.	3- 1-39	—	8- 2-38	31
SS200 Thresher	Electric Boat Co.	4-27-39	—	8- 2-38	33
SS201 Triton	Portsmouth Navy Yard	7- 5-39	—	9- 1-38	30
SS202 Trout	Portsmouth Navy Yard	8-28-39	—	9- 1-38	32
SS203 Tuna	Mare Island Navy Yard	7-19-39	—	11- 1-38	30
SS204 Mackerel	Electric Boat Co.	—	—	6-15-39	23
SS205 Marlin	Portsmouth Navy Yard	—	—	7- 1-39	27
SS206 Gar	Electric Boat Co.	—	—	6-15-39	25
SS207 Grampus	Electric Boat Co.	—	—	6-15-39	27
SS208 Grayback	Electric Boat Co.	—	—	6-15-39	29
SS209 Grayling	Portsmouth Navy Yard	—	—	7- 1-39	25
SS210 Grenadier	Portsmouth Navy Yard	—	—	7- 1-39	29
SS211 Gudgeon	Mare Island Navy Yard	—	—	7- 1-39	27
DESTROYERS					
DD402 Mayrant	Boston Navy Yard	4-15-37	5-14-38	2-14-36	42
DD403 Trippe	Boston Navy Yard	4-15-37	5-14-38	2-14-36	44
DD404 Rhind	Philadelphia Navy Yard	9-22-37	7-28-38	2-14-36	42
DD405 Rowan	Norfolk Navy Yard	6-25-37	5- 5-38	2-14-36	42
DD406 Stack	Norfolk Navy Yard	6-25-37	5- 5-38	2-14-36	44
DD407 Sterett	Charleston Navy Yard	12- 2-36	10-27-38	2-14-36	42
DD408 Wilson	Puget Sound Navy Yard	Completed 14 August, 1939			
DD410 Hughes	Bath Iron Works Corp.	9-15-37	6-17-39	10-12-36	34
DD412 Hammann	Federal SB & DD Co.	Commissioned 11 August, 1939			
DD413 Mustin	Newport News SB & DD Co.	12-30-37	12- 8-38	10-12-36	32
DD414 Russell	Newport News SB & DD Co.	12-30-37	12- 8-38	10-12-36	34
DD415 O'Brien	Boston Navy Yard	5-31-38	—	1-12-37	33
DD416 Walke	Boston Navy Yard	5-31-38	—	1-12-37	35
DD417 Morris	Norfolk Navy Yard	6- 7-38	6- 1-39	1-12-37	33
DD418 Roe	Charleston Navy Yard	4-23-38	6-21-39	1-12-37	33
DD419 Wainwright	Norfolk Navy Yard	6- 7-38	6- 1-39	2-12-37	34
DD420 Buck	Philadelphia Navy Yard	4- 6-38	5-22-39	2-12-37	33
DD421 Benson	Beth. Steel Co. (Quincy)	5-16-38	—	9-30-37	32
DD422 Mayo	Beth. Steel Co. (Quincy)	5-16-38	—	9-30-37	34
DD423 Gleaves	Bath Iron Works Corp.	5-16-38	—	9-30-37	34
DD424 Niblack	Bath Iron Works Corp.	8- 8-38	—	9-30-37	36
DD425 Madison	Boston Navy Yard	12-19-38	—	12-30-37	34
DD426 Lansdale	Boston Navy Yard	12-19-38	—	12-30-37	36
DD427 Hilary P. Jones	Charleston Navy Yard	11-16-38	—	12-30-37	34
DD428 Chas. F. Hughes	Puget Sound Navy Yard	1- 3-39	—	12-30-37	34
DD429 Livermore	Bath Iron Works Corp.	3- 6-39	—	8-15-38	28
DD430 Eberle	Bath Iron Works Corp.	4-12-39	—	8-15-38	30
DD431 Plunkett	Federal SB & DD Co.	3- 1-39	—	8-17-38	30
DD432 Kearny	Federal SB & DD Co.	3- 1-39	—	8-17-38	32
DD433 Gwin	Boston Navy Yard	6- 1-39	—	10- 1-38	29
DD434 Meredith	Boston Navy Yard	6- 1-39	—	10- 1-38	31
DD435 Grayson	Charleston Navy Yard	7-17-39	—	10- 1-38	30
DD436 Monssen	Puget Sound Navy Yard	7-12-39	—	10- 1-38	29
DD437 Woolsey	Bath Iron Works Corp.	—	—	6-15-39	24
DD438 Ludlow	Bath Iron Works Corp.	—	—	6-15-39	26
DD439 Edison	Federal SB & DD Co.	—	—	6-15-39	24
DD440 Ericsson	Federal SB & DD Co.	—	—	6-15-39	26
DD441 Wilkes	Boston Navy Yard	—	—	7- 1-39	24
DD442 Nicholson	Boston Navy Yard	—	—	7- 1-39	26
DD443 Swanson	Charleston Navy Yard	—	—	7- 1-39	26
DD444 Ingraham	Charleston Navy Yard	—	—	7- 1-39	28
DESTROYER TENDERS					
AD14 Dixie	New York SB Corp.	3-17-38	5-27-39	12-27-37	34
AD15 Prairie	New York SB Corp.	12- 7-38	—	10-14-38	24
MINESWEEPERS					
AM55 Raven	Norfolk Navy Yard	6-28-39	—	9- 1-38	24
AM56 Osprey	Norfolk Navy Yard	6-28-39	—	9- 1-38	26
REPAIR SHIP					
AR5 Vulcan	New York SB Corp.	—	—	8- 1-39	32
SUBMARINE TENDER					
AS11 Fulton	Mare Island Navy Yard	7-19-39	—	9- 1-38	36
FLEET TUGS					
AT64 Navajo	Beth. Steel Co. (Staten Is.)	12-12-38	8-17-39	8-15-38	18
AT65 Seminole	Beth. Steel Co. (Staten Is.)	12-16-38	—	8-15-38	20
AT66 Cherokee	Beth. Steel Co. (Staten Is.)	12-23-38	—	8-15-38	22
AIRCRAFT TENDERS					
AV4 Curtiss	New York SB Corp.	4-25-38	—	12-27-37	38
AV5 Albermarle	New York SB Corp.	6-12-39	—	10-14-38	32
SEAPLANE TENDERS					
AVP10 Barnegat	Puget Sound Navy Yard	—	—	9- 1-38	27
AVP11 Biscayne	Puget Sound Navy Yard	—	—	9- 1-38	30
AVP12 Casco	Puget Sound Navy Yard	—	—	7- 1-39	24
AVP13 Mackinac	Puget Sound Navy Yard	—	—	7- 1-39	27
MINE LAYER					
CM5 Terror	Philadelphia Navy Yard	—	—	9- 1-39	36
SUBMARINE CHASERS					
PC449	Luders Marine Const. Co.	7-10-39	—	7- 1-39	10—
PC450	American Car & Foundry Co.	8- 9-39	—	6-10-39	9—
PC451	Defoe Boat & Motor Works	—	—	6-15-39	12—
PC452		—	—	—	12
MOTOR TORPEDO BOATS					
PT1	Miami Shipbuilding Corp.	7-12-39	8-16-39	6- 8-39	165*
PT2	Miami Shipbuilding Corp.	8-19-39	—	6- 8-39	165*
PT3	Fisher Boat Works	8- 1-39	—	6- 8-39	195*
PT4	Fisher Boat Works	8- 5-39	—	6- 8-39	215*
PT5	Higgins Ind., Inc.	8- 1-39	—	6-10-39	175*
PT6	Higgins Ind., Inc.	8-23-39	—	6-10-39	230*
PT7	Philadelphia Navy Yard	8-29-39	—	—	—
PT8	Philadelphia Navy Yard	—	—	—	—

* Calendar Days.

hull. Naval experts are in general agreement that battleships are the backbone of naval power. Admiral Leahy, recently retired Chief of Naval Operations, has said that: "a fleet of which battleships are the main element of strength, is the only certain means of repelling an attack by existing foreign navies before they could reach our shores, in either ocean, and it is the only certain means of bringing a war to a successful conclusion."

There are 15 battleships in our battle line. The normal useful life of this type is 26 years. On this basis one of our fifteen is already overage, two will become over age next year, and four more in 1942. Thus we are confronted with the fact that one-half of our battle line is obsolete. Looking at the other half, our two newest battleships are sixteen years old, the next two eighteen and the rest still older. In brief, we have but one battleship which was designed after the World War. Ten of our battleships have been modernized but it is patent that modernization of an old ship does not make it the equal of a new one.

Great Britain has two new battleships completing in 1940, two more in 1941, and she already has two post-Jutland ships in her battle-line. Germany, France, and Italy, likewise have new battleships but it is not believed that Japan will complete her first new vessels of this type before late 1941. Relatively we have no cause for alarm over the condition of our battle line for in total power no nation is comparable to our strength except the British.

The aircraft carrier is a comparatively new type, requiring high speed and having little defensive armament. We have five underage carriers with a plane capacity of approximately 450 planes. With the exception of the *Lexington* and *Saratoga* which were converted from battle cruiser hulls, our carriers are of modern design. A sixth carrier is nearing completion and a seventh has been laid down. Britain is well ahead of us in the number of carriers, having nine built and seven building. Japan is about equal and France and Germany are well behind. Italy has none.

In all, our naval plane strength is now about 1,500 operating planes plus 600 spares and reserve planes. Our present program is designed to reach 3,000 by the end of 1944. Each battleship and cruiser carries scout observation planes launched from catapults. Our large patrol planes are operated from tenders and strategically located bases. We have such bases at Norfolk, Virginia; Panama, Canal Zone; San Diego, California; Pearl Harbor, Hawaii, and Sitka, Alaska. The last Congress authorized additional base facilities at Kodiak, Alaska; Sitka, Alaska; San Juan, Puerto Rico; Pensacola, Florida; Jacksonville, Florida; Banana River, Florida; Tongue Point, Oregon; Norfolk, Virginia; Palmyra Island, and Pearl Harbor, Hawaii. Work has actually been started on the last five of these bases and should be completed in three years.

Cruisers are of two kinds classified by treaty as class (*a*) and class (*b*). The class (*a*) mount guns not exceeding eight inches in caliber and the class (*b*) not exceeding six inches. The eight-inch gun cruisers are commonly called "heavy" and the six-inch, "light" cruisers. We now have 18 of the heavy type and are restricted by treaty from building more until 1942. All of these are underage as are the 19 light cruisers in service. This gives us a total of 37 underage cruisers built with six light cruisers building.

We lead all nations in number of heavy cruisers but trail Great Britain and Japan in the light cruisers.

The destroyer, fleetest of all seagoing naval types has a speed of over 35 knots or 40 miles per hour. Its primary weapon is the torpedo but it is also provided with five inch dual purpose guns and carries depth charges for anti-submarine use. It is a very versatile type, being well adapted for convoy escort and for screening, scouting, and search missions. In a major fleet battle groups of destroyers are used to make swift torpedo attacks on groups of larger ships.

With 55 underage destroyers, our fleet has fewer than any naval power except Germany. As a result of this situation we have retained in service 66 overage destroyers giving us a total in commission of 121. Out of commission but capable of being put back into service in emergency are 110 more overage ships giving a total available for war use of 231.

It is interesting to recall that upon our entrance into the World War we had only 52 destroyers and that we immediately embarked upon the greatest destroyer building program in history. Two hundred and seventy-five ships of this type were ordered and the utmost effort was made to speed their construction. An all time record was made when the USS *Reid* was commissioned 56 days after its keel was laid in the Squantum plant of the Bethlehem Steel Co. But despite all that could be done only 44 new destroyers could be added to the fleet before the armistice on November 11, 1918. Of this 44 only 22 had been started during the War, and only 12 of the 22 were completed in time to engage in war duty. This is an eloquent example of the futility of depending on building naval vessels after a conflict is imminent. We urgently needed 275 destroyers and we could produce only 24. Even the Eagle boats which Mr. Ford exerted such great effort to produce rapidly came too late. The largest type of craft that could be turned out quickly and in quantity was the little 110-foot wooden subchaser.

We come now to a consideration of the submarine, that dreaded war craft which operates under the water as well as on its surface. The primary weapon of this type is the torpedo but for surface use against lightly armed ships and aircraft the submarine has a gun mounted on deck. Due to its small reserve buoyancy, however, the submarine is at a distinct disadvantage in a gun duel. Invisibility is the submarine's greatest asset and makes it very useful in certain forms of scouting and patrol duties. As a raider of commerce we know it best and dread it most.

The normal useful life of the submarine is thirteen years. Of all navies we have the fewest underage boats in service, the number being 24 as compared to Great Britain's 44, France's 76, Italy's 98, Germany's 50, Russia's 134, and Japan's 44. Counting our overage boats we have a total of 58 in commission and 28 out of commission but capable of use in emergency. There are in all navies about 700 submarines in service and all nations are continuing to build this type at a rapid pace.

Looking at the whole picture, our naval forces available for duty now are in point of numbers second only to those of Great Britain and stronger than those of any other one nation. The battle efficiency of our Fleet and the training and morale of our men are, in the opinion of Admiral Leahy, unequalled by any major naval power. This is more of a tribute to the men behind the guns than to our foresight in providing timely replacements for worn out units of our fleet.

Let us face the facts of our naval rearmament program. In 1933 the President allocated $238,000,000 from emergency funds for construction of 32 ships. The last of this group was completed in 1938. The Congress took action in 1934 by the enactment of the Vinson-Trammell Act which authorized building up to treaty limits allowed us. Under this act 94 ships have been laid down, 45 of which are in service and 49 of which are still building. Urgent needs for auxiliary vessels was partially provided for in the Act of July 30, 1937, under which six ships are still building. The Naval Expansion Act of May 17, 1938, referred to above as the billion dollar program has resulted in the addition to the fleet of but two oil tankers and they were purchased ready built. Thirty-four combatant ships have been laid down under this program but the first will not be ready for service before 1940. This program will probably not be completed earlier than 1944.

To summarize, we have laid down since 1933 a total of 179 new naval vessels of which 89 have been completed and 90 are still building. Averaging over the six year period our shipbuilding industry has produced 15 naval vessels per year. The rate of completion is increasing slowly as shown by the fact that 17 new ships were placed in commission the past year, but our fleet will not be up to authorized strength in underage ships until 1944 unless we resort to emergency methods. When we reach our present goal in underage tonnage we will have the following number of underage ships:

18 battleships
45 cruisers (or thereabouts)
150 destroyers
56 submarines
8 aircraft carriers
3,000 airplanes

Our naval forces are at present maintained in strategic concentration on the west coast with the following exceptions. Our Asiatic fleet of 36 miscellaneous ships is based on Manila. The Atlantic Squadron composed of three battleships, one training ship, one aircraft carrier, four heavy cruisers, and 19 destroyers operates in the Western Atlantic. The Special Service Squadron of two gunboats and two destroyers bases on the Canal Zone and cruises in Central and South American waters. Our temporary European Squadron of one light cruiser and two destroyers is normally in Mediterranean ports. We maintain shore based submarines at Pearl Harbor, Panama, Canal Zone, and New London, in addition to those with the fleet.

(Continued on page 31)

History of the Railways in Manchuria

(Contemporary Manchuria)

In 1940, the South Manchuria Railway Company will commemorate in an impressive and gala manner, the completion of the ten thousandth kilometer of railways under its operation. The first page in the history of railway construction on the vast plains of Manchuria was recorded in 1894, when Great Britain extended the tracks of the Peining Railway through Shanhaikwan eastward beyond the Great Wall as a measure to counteract the permeative southward advance of Russian influence from the north. The first extension of this line linked Shanhaikwan with Suichung, a distance of 40 miles. From that time on, a railway network of approximately 10,000 kilometers in length, was constructed during a period of forty-five years.

However, railways were not constructed at a regular tempo. During the twenty-year period between 1903, when the British Peining Railway and the Russian Chinese Eastern Railway were opened to traffic, and 1923, only 55 kilometers of new lines were added annually. Even after the commencement of railway construction by the Chinese Government in 1924, the annual rate of new lines was only 250 kilometers for the eight-year period terminating with the outbreak of the Manchurian Incident.

From the geographical standpoint, not to mention the standpoint of railway economics, the development of Manchurian railways displays a marked resemblance to the development of railways in the Northwestern States of the United States, in the prairies of Canada and in the central plains of Argentina, which was dependent to a large extent upon large-scale agriculture.

Manchuria is endowed with fertile soil well suited for agriculture, is a promising land for immigration from Japan and China where the density of population is uncomfortably high, has abundant timber resources and deposits of iron and coal, is well suited for industrial development, has plentiful construction materials, and has a cheap labor supply. All these favorable factors help to make Manchuria an ideal land for railway construction and operation.

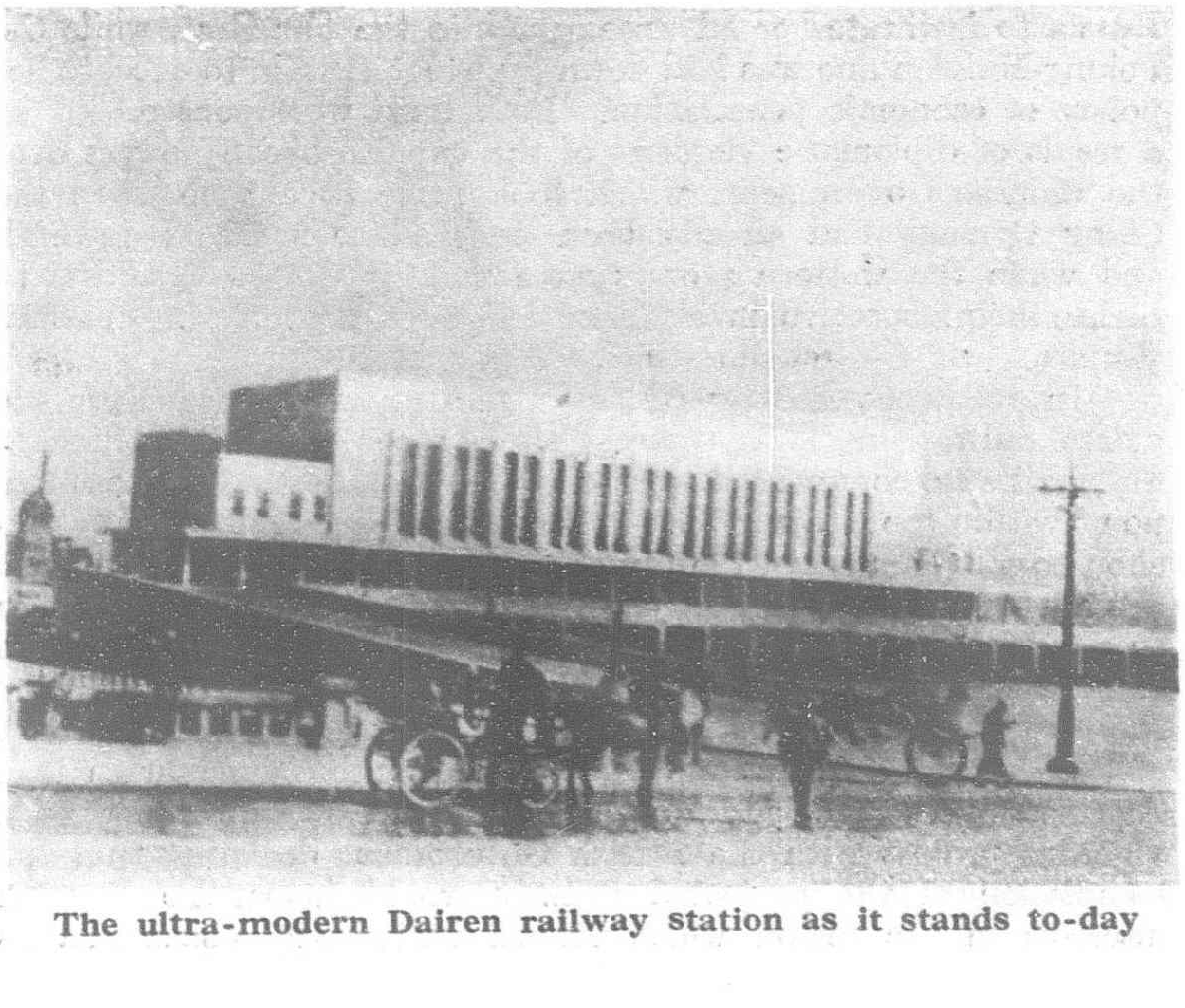
The slow development of railways characterized the history of railway construction in Manchuria.

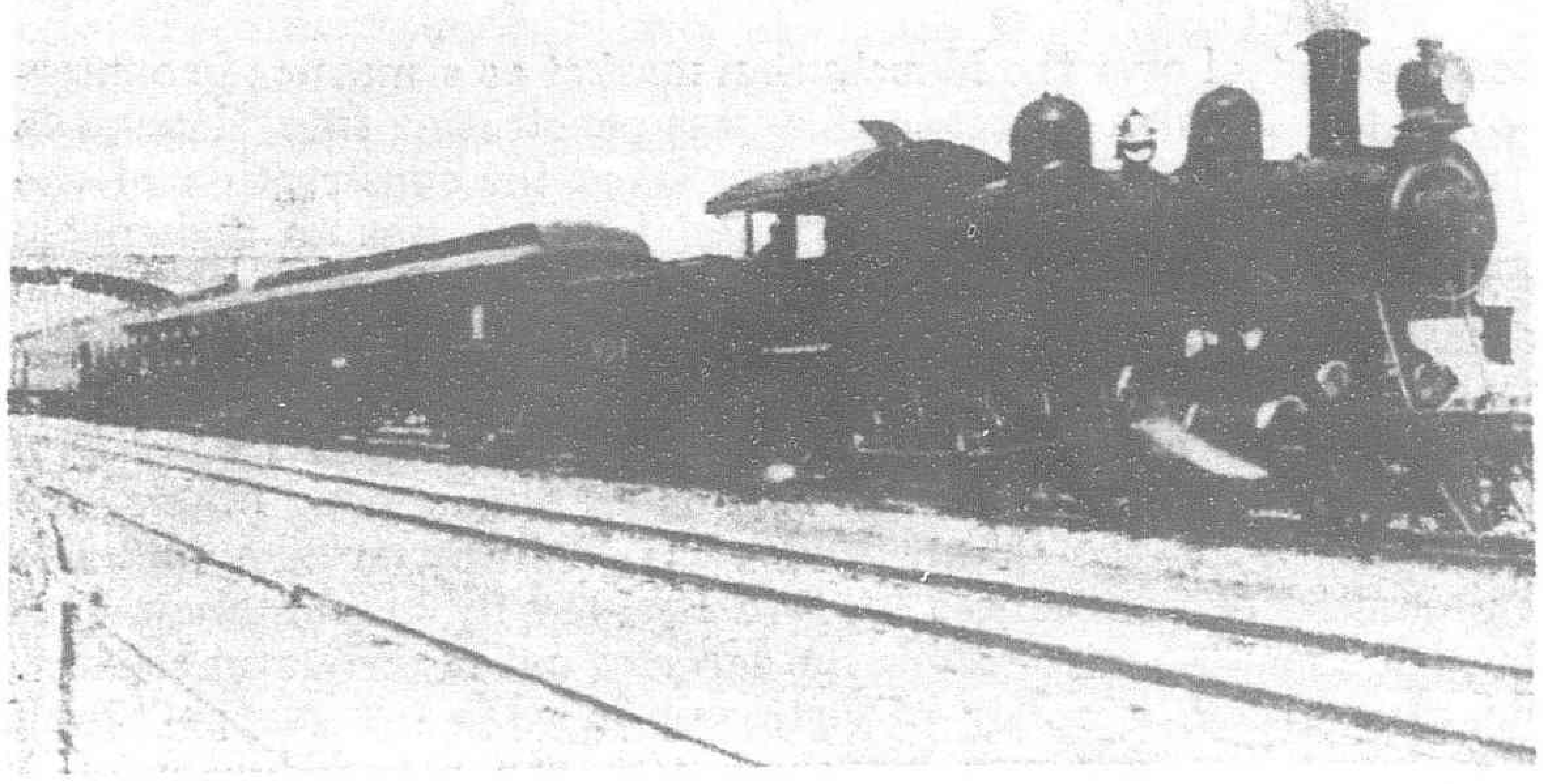
Railway enterprises in Manchuria before 1931, were conducted in an age contemporaneous with the period of keen rivalry among various international political influences, and prevailing conditions did not permit the construction of railways as easily as in North and South America where railway questions were dealt with as purely economic problems. In the past, there was no case whereby a new plan for the laying of an important railway in Manchuria was not a direct result of successful diplomatic negotiations or interchange of notes. The extension of the Peining Railway beyond Shanhaikwan with British capital was undertaken as a measure to acquire control over the Manchurian market as a means of counteracting the Russian influence that was penetrating into Manchuria from the north, while on the other hand the construction of the North Manchuria Railway by Imperial Russia was an undeniable expression of her designs on the Far East. On more than one occasion, the Chinese authorities placed difficult obstacles in the way of the Japanese as soon as the latter had decided to lay a new line. The desperate campaign to retrieve railway rights was begun by the Chinese in 1924, which had as its aims among others, the encirclement of the South Manchuria Railway system and the amputating of the Chinese Eastern Railway by building new lines in such a manner as to enable the carrying out of the clever scheme. Simultaneously, a policy of squeezing the life out of the South Manchuria Railway was launched with the establishment of a system of preferential and prejudicial railway rates under the slogan "Crush the S.M.R.," and by turning on maximum economic pressure. Under such provocative circumstances, the South Manchuria Railway was compelled to take immediate retaliatory measures to offset the effects of the hostile Chinese program. Diplomatic controversies over railway questions between Japan and China were opened. In consequence, Manchuria was partitioned off among Japan, Russia and China, into three political spheres of influence. Since such a situation permitted the domination of Manchuria by no single power, the realization of a noteworthy railway development during this period was practically out of the question.

Nevertheless, the Manchurian Incident which broke out in the autumn of 1931, gave birth to the new nation of Manchoukuo, and the once maladministered regions of Manchuria and Mongolia were placed under the effective jurisdiction and positive control of the new regime. Consequently, all obstacles and hindrance that had barred the way of railway development were completely eliminated. The Manchoukuo Government entrusted the management of all railways (including the Chinese Eastern Railway) to the South Manchuria Railway Company, which has succeeded in constructing annually some 400 kilometers of new lines during the eight years between the end of the Manchurian Incident and 1939. At the present time, the total length of railways under the management of the South Manchuria Railway Company has reached 10,000 kilometers.

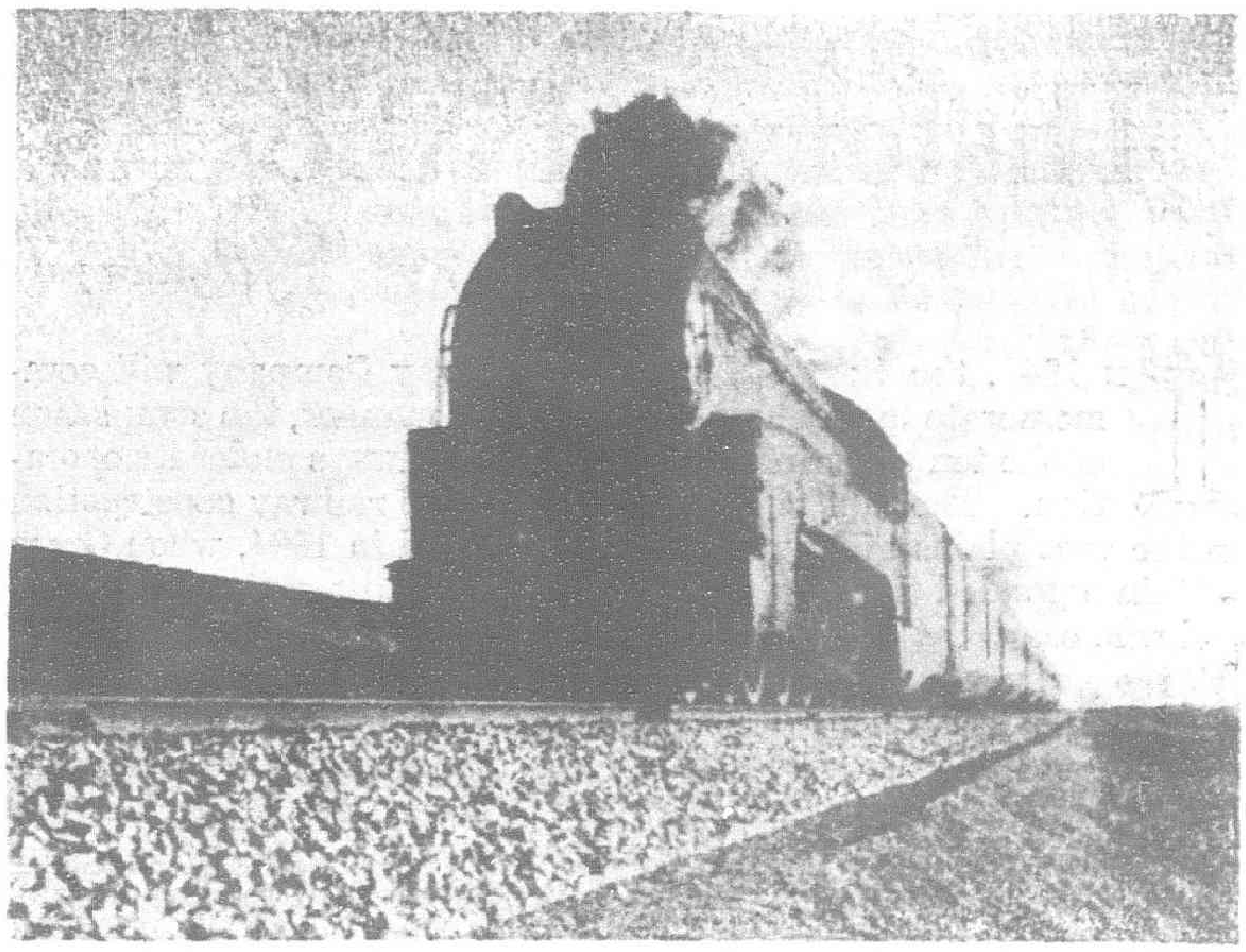
In parallel with the increase in the length of railway lines, a remarkable improvement has been made in train service which makes it impossible to compare present conditions with those of the past. Travellers visiting Manchoukuo can cover the distance between Dairen and Harbin (944 kilometers) in 12½ hours on the streamlined, ultra-modern super-express "Asia" which provides

The former railway station at Dairen


The ultra-modern Dairen railway station as it stands to-day



A Manchurian express train of bygone days. These sturdy "Iron Horses" contributed much to the development of rail transport until replaced by the stream-lined super-expresses of the present day



The bullet express "Asia," last word in speed and comfort which traverses the broad plains of Manchuria at a top speed of 140 kilometers per hour

ample accommodations for its passengers and ensures a pleasant trip in spacious air-conditioned coaches. One can now travel in utmost comfort on the observation car of the bullet super-express and gaze across the endless sea of green crops swaying in the Manchurian breeze.

Stages of Manchurian Railway Development

It is convenient to divide the history of railway development in Manchuria, that is from 1894 when the first line was built, up to the present time, into four periods or stages for our study.

The First Stage centers around the construction of the Chinese Eastern Railway and the Peking-Mukden line. It also embraces the initial period of management of these lines (1894-1904).

The Second Stage begins with the organization of the South Manchuria Railway Company and runs through the period in which branch lines were constructed by the Company (1905-1923).

The Third Stage extends from the commencement of China's feverish campaign to recover railway rights to the period of railway construction by the Chinese (1924-1930).

The Fourth Stage begins with the termination of the Manchurian Incident and ends with the present day (1931-1939).

A brief résumé of these four stages is attempted hereunder.

The First Stage—1894-1904

Peining Railway (Peking-Mukden Railway).—The foremost pioneers among the railways when the railroad era dawned on Manchuria are the Peking-Mukden line and the Chinese Eastern Railway. The Chinese Eastern Railway was built by Imperial Russia to facilitate her advancement into the Far East, while the Peking-Mukden line was laid down by Great Britain to execute her policy of economic penetration. Both lines were constructed as a result of diplomatic victories of the two European powers over the Chinese Government, which took place at a time when the Ching Dynasty had already been destined to meet its downfall and when the western powers were making desperate efforts to realize their respective imperialistic designs on the tottering Celestial Empire.

In 1893, the Peining Railway (British capital) which is the oldest railway in China, having already constructed the line to Shanhaikwan, commenced work on the section beyond the terminal point within the Great Wall. The extended line had pierced Chinchou to Yingkou when the Sino-Japanese War broke out and put a stop to construction activities. When Russian influence began to penetrate southward following this war, the British decided to counter the Russian menace, and entered into a contract with the British and Chinese Corporation which called for the advancement of a £2,300,000 loan for the construction of the Manchurian line. Alarmed by the new situation, the Russian Government lodged a vigorous protest with the British Government declaring that the completion of the projected railway would jeopardize Russian interests in the region which Russia unilaterally considered as within the Russian sphere of influence. After a series of diplomatic negotiations, the Muravieff-Scott Agreement was concluded in 1899, by virtue of which, the spheres of influence of the contracting powers in China were clearly defined, and the construction of railways in Manchuria was recognized as within Russia's sphere of influence. However, Russia acquiesced in the extension of the Peining Railway beyond the Great Wall, on the ground that it was an acquired right of the British, with, however, certain reservations.

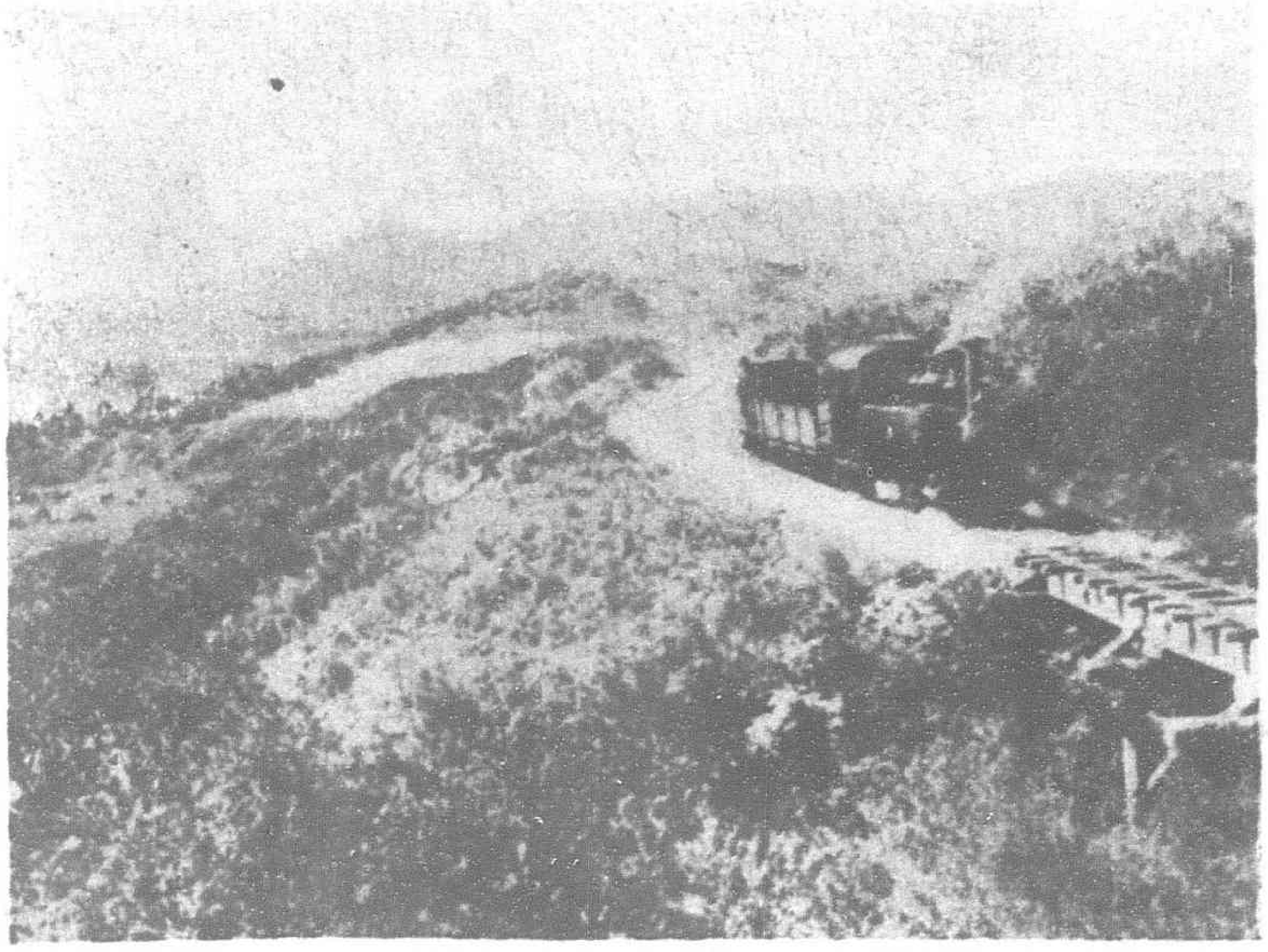
In 1903, the line was opened to traffic as far as Hsinmin, and after the Hsinmin-Mukden line, which was constructed as a military line by the Japanese during the Russo-Japanese War, was transferred, the entire stretch from Peking to Mukden was finally completed.

The Chinese Eastern Railway (later known as the North Manchuria Railway). Perhaps there is no other line that has gone through a more varied history and chequered fortunes than the Chinese Eastern Railway. The greater part of its thirty-year history which ended when it became a part of the Manchoukuo State Railways, was occupied by wars, revolutions, international management, joint Sino-Russian management, and was amazingly full of ups and downs.

With the inflow of French capital during the latter half of the Nineteenth Century and the establishment of the protective tariff system following the Napoleonic wars, a marked development of Russian capitalism was recorded, while about 1850, sufficient capital for industrial development was available.

About the same time, Russian heavy industries had developed the abilities to meet the demands of prodigious railway construction projects, and in addition, heavy industrialists had acquired control over the foreign policy of Russia. The national productive capacity which was developed overnight, resulted in over-production and necessitated foreign outlets. Russia's attention was first directed to the Near East, but the attempts to acquire an outlet there were sadly frustrated by the determined resistance put up by Great Britain. Russia now turned her eager eyes toward the Far East, and subsequently, construction of the great Trans-Siberian Railway was carried out. It is most natural that the Russians decided to run their line straight through Manchuria to connect with Vladivostok, since this was the shorter and more direct route. The Russian Government acquired the right to construct the Chinese Eastern Railway by virtue of the secret Sino-Russian treaty of alliance, and entrusted the management and operation of the line to the Russo-Chinese Bank which was established with French capital, in accordance with the stipulations embodied in the contract with China concerning the construction and management of the Chinese Eastern Railway. This bank organized the Chinese Eastern Railway Company in accordance with the contract. Besides the right to construct and manage railway lines the rights acquired by the Chinese Eastern Railway from China are as follows:

(1) Right to protect railways
(2) Navigation rights on the Sungari River



Here is a reminder of the past. Progress in the past thirty years has been such that any comparison of past and present is like comparing the "Santa Maria" of the time of Columbus with the great liner the "Queen Mary" of to-day

(3) Right to acquire lands in the railway zone
(4) Right to operate mines
(5) Timber rights
(6) Right to lay and operate telegraph and telephone lines
(7) Postal rights
(8) Exemption from taxation
(9) Judicial rights
(10) Administrative rights in the railway zone

These rights made the Chinese Eastern Railway an agent of the home government for the encouragement and execution of immigration, or more precisely, a monopolistic colonization company. If the acquisition of the right to construct the main line of the Chinese Eastern Railway to Vladivostok was the policy of the group of industrialists and financiers who were gaining considerable influence, and represented by Witte, then the acquiring of the right to construct branch lines from Harbin to Dairen was an adventurous policy of a certain group of munitions industrialists who had built up a strong relationship with the influential royal and nobility classes. In March, 1898, Russia, in accordance with the Treaty Concerning the Lease of the Liaotung Peninsula, obtained a lease extending over a period of 25 years of Port Arthur and Dairen, and also the right to connect the port of Dairen with a certain point on the branch line of the Chinese Eastern Railway, and an alternative right to build a line from this branch line to Yingkou or to the Yalu River, should the situation necessitate such construction.

Construction work on the Chinese Eastern Railway was pushed at a rapid pace commensurate with the progress being made on the Siberian Railway which was laid close to the boundary running east to west.

The remarkable speed with which construction work progressed was enabled by the strong support given by Russian industrial capital, especially the steel industry, which had attained full growth by then, and by the generous appropriations made from the national treasury, but the enthusiasm of the railway workers and the hidden strength of Chinese coolies cannot be overlooked in the evaluation of contributing factors to the construction of this gigantic railway. The gauge was set at five feet to conform to other Russian lines and in accordance with the contract. With the arrival of construction laborers at Harbin on May 28, 1898, the grand construction work was commenced simultaneously into three directions radiating from Harbin, i.e., toward the eastern and western borders and in the direction of Dairen and Port Arthur. Likewise, work was begun from the three opposite points. Thus in 1903, a total length 2,400 kilometers on the Chinese Eastern Railway was officially opened to traffic. The completion of this extensive stretch of railways, 2,400 kilometers long, within four years after christening and three years after actual commencement of construction work, must be hailed as one of the outstanding engineering landmarks during the latter part of the Nineteenth and the early part of the Twentieth centuries. Despite the difficulties presented by prevailing natural and social conditions, the creation of the Chinese Eastern Railway, together with the completion of the Trans-Siberian Railway deserves the highest respect as a great historical event of the time. On the other hand, the strong impulse for expansion of Russian capitalism, which was the motive power in this huge railway enterprise, can be fully recognized.

The total capital invested in the construction of the Chinese Eastern Railway has been given at 302,000,000 roubles or an average cost of 125,000 roubles per kilometer. At the time the Chinese Eastern Railway was completed, it was felt that the future of the railway was boundless, but no sooner had operation begun, than the Russo-Japanese War broke out in the following year, and the new railway was compelled to serve military purposes for two years. After the conclusion of the Portsmouth Treaty, the Chinese Eastern Railway was forced to take a double jolt since that section between Changchun (now Hsinking) and Dairen of the branch line was ceded to Japan which meant that the South Manchurian market was completely lost, and at the same time the birth of the South Manchuria Railway Company signified the birth of a formidable competitor.

It is interesting to trace the course of events which befell the Chinese Eastern Railway after the Russo-Japanese War.

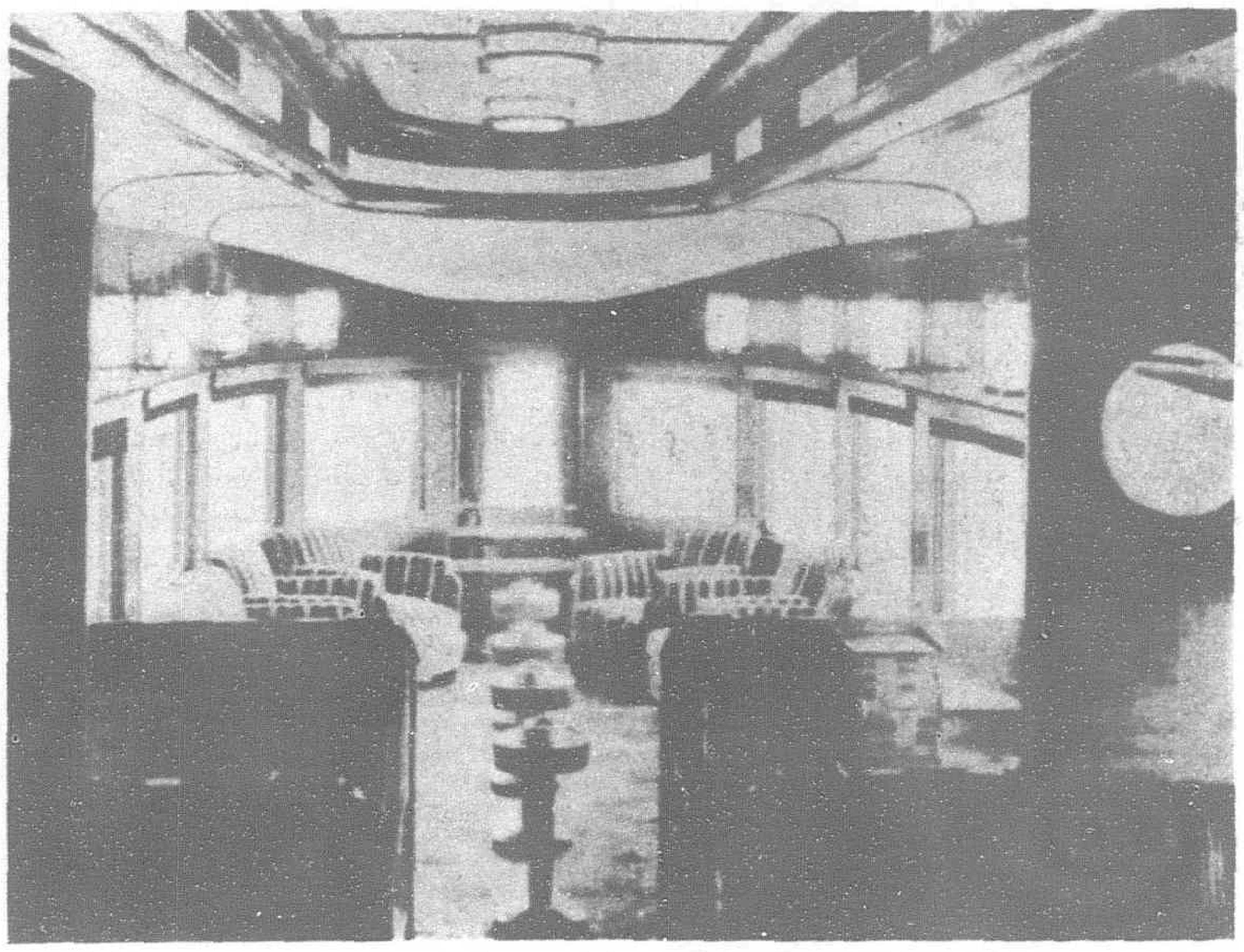
With the outbreak of the Russian Revolution in 1917, the management of the Chinese Eastern Railway was completely paralysed, and for several years until the real management was restored, the railway was placed under an international supervision, an arrangement which was fraught with uncertainty. On top of this chaotic situation, a radical decline of the Russian rouble brought about a serious financial crisis which almost ruined the railway. In the meantime, the new competitor, the South Manchuria Railway had been consolidating its foundation, and invading North Manchurian markets. In the midst of such overwhelming odds and haphazard management, the Chinese Eastern Railway was a powerless thing against the forceful measures put into play by the Chinese Northeastern Regime, aiming at the recovery of railway rights and control.

The denouncement of all rights held by Imperial Russia by the Soviet Regime, crushed the political framework of the Chinese Eastern Railway. Riding on the crest of the worldwide nationalistic wave which rose after the Great War, the Chinese Government launched an active offensive with a view to recovering railway rights, and maneuvered Russia into signing the Mukden Agreement in October, 1924. As a result of this agreement, the Chinese Eastern Railway was placed under a joint Sino-Russian management.

Even after the advent of Manchoukuo, the North Manchuria Railway (formerly the Chinese Eastern Railway) was operated under the direct management of Soviet Russia, and constituted a special element in the railway system of the new State. Due to the pursuance by the Soviet of a policy of dominating the North Manchurian market and of building an indomitable position at Vladivostok, an atmosphere of rivalry prevailed at that time, which

Modern freight trains speed through the arteries of Manchuria's freight transportation

Interior of one of the older observation cars in Manchuria



The observation car of the super-express of the South Manchuria Railway Company, the "Asia"

more or less hindered the co-ordinated operation of the railway systems of North and South Manchuria. In compliance with the request of the Manchoukuo Government, the South Manchuria Railway Company constructed railways (Harbin-Lafa and Hsinking-Tumen lines) after the Manchurian Incident for the purpose of opening a connection between the important centers in North Manchuria and Japan. The completion of the Harbin-Lafa line was highly significant in that direct Harbin-Dairen traffic was now made possible and at the same time it threw a great political and economic threat at the North Manchuria Railway. Undoubtedly, this later turned out to be the principal factor which persuaded the Soviet to propose the sale of the North Manchuria Railway.

Upon receiving the proposal for the transfer of the North Manchuria Railway from Soviet Russia which considered it wise to relinquish the railway in view of the changing situation, representatives of Manchoukuo and Soviet Russia assembled at Tokyo and opened negotiations for the transfer in June, 1933, with the Japanese Government serving in the capacity of advisor to the respective parties. After a series of unsuccessful attempts, an agreement was finally signed on March 23, 1935, and simultaneously, a length of 1,732.8 kilometers of the North Manchuria Railway as well as all affiliated properties and facilities thereof, were taken over by the Government of Manchoukuo. It was agreed upon that Manchoukuo should pay a sum of 140,000,000 yuan and an additional sum of 30,000,000 yuan as retirement allowance for Soviet employees or a total of 170,000,000 yuan in all as the price for the transfer.

As soon as the North Manchuria Railway passed into the jurisdiction and ownership of Manchoukuo, the southern section was renamed the Hsinking-Harbin line, the western section the Harbin-Manchuli line, and the eastern section, the Harbin-Suifenho line. Since the nature of the Hsinking-Harbin line rendered it a part of the South Manchuria Railway main line as far as operation was concerned, a decision to immediately convert the gauge of the former to the latter's standard was reached (conversion of the five feet gauge to standard gauge). The work of conversion was commenced at 5.00 a.m. on August 31, 1935, and only three hours later or at 8.00 a.m., the whole stretch of 242 kilometers was completed.

The total cost involved in the process was 800,000 yuan, but when other related expenses are added, the grand total of reconditioning the line amounts to 14,000,000 yuan. With the unification of the gauge, a direct link between North and South Manchuria was effected, and at the present time, the super-express "Asia" covers the distance between Dairen and Harbin in 12½ hours. The purchase of the North Manchuria Railway was an outstanding event in the history of railway development of Manchuria, and perhaps it will remain as one of the milestones of railway progress in Manchuria for a long time to come.

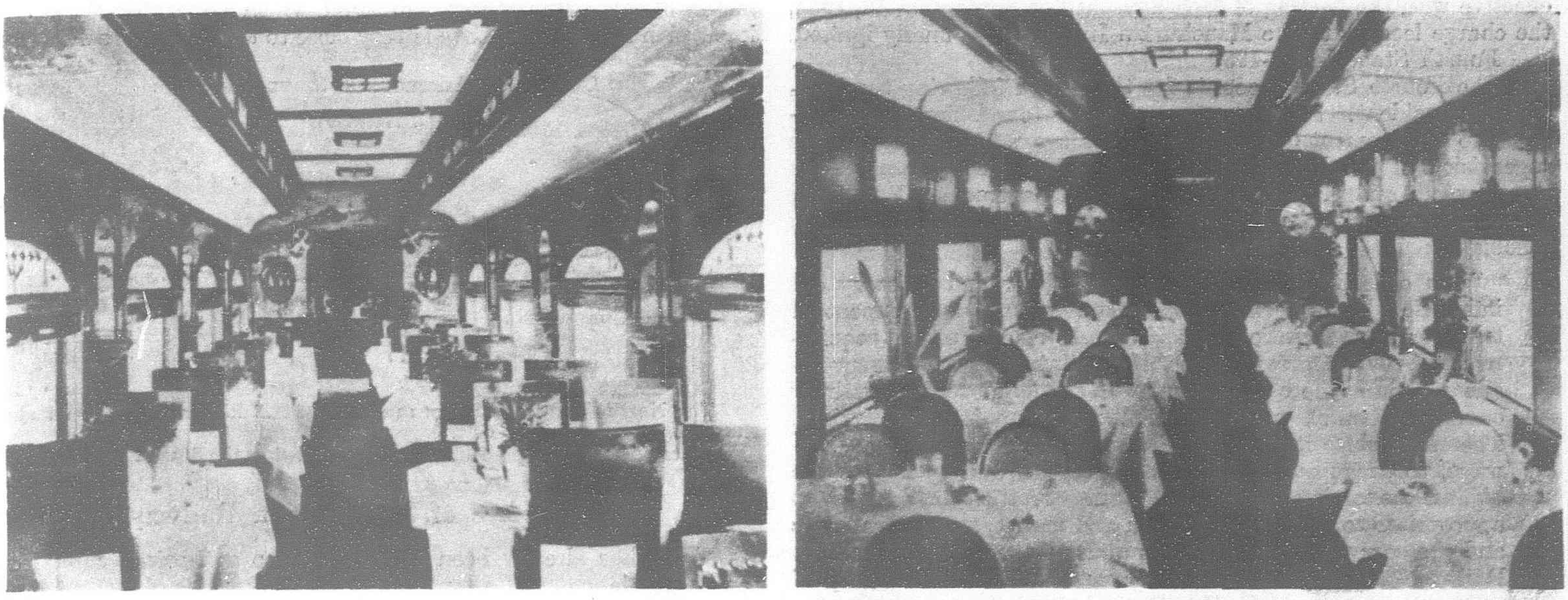
Second Stage—1905-1924

The second stage covers the period between the cession of a part of the Chinese Eastern Railway, namely the line south of Changchun (present-day Hsinking), to Japan as a result of the Russo-Japanese War (1905), and 1924, in which year, the Mukden Agreement was signed between China and Russia. It was during this period that the keen rivalry between the Russian Chinese Eastern Railway and the Japanese South Manchuria Railway reached its height, and it was also during this same period that Great Britain, the United States, France and other western powers employed all means at their command to obstruct Japan's continental expansion.

The South Manchuria Railway Company.—The South Manchuria branch system of the Chinese Eastern Railway, which began to operate in July, 1903, or about the same time with the main line, was composed of (1) the South Manchuria Branch line (Harbin to Port Arthur), (2) the Dalny Branch (Choushuitzu to Dairen), (3) Liuchiatun Branch (Tafangshan to Liushutun), (4) Yingkou Branch (Tashihchiao to Yingkou), (5) Yentai Branch (Yentai to Yentai Coal Mines), and (6) the Fushun Branch (Ssuchiatun to Fushun). With the outbreak of the Russo-Japanese War, the Japanese troops which had been stationed in Korea, crossed the Yalu River into Antung-hsien, and from there constructed a light-track military line to Mukden (a length of 180 miles) which was completed by the end of 1904. After the war was terminated, this line was placed under the ownership of Japan.

There is an interesting episode in connection with the establishment of the South Manchuria Railway Company.

The United States Government, which had decided to acquire rights and interests in China, late as it was, with the principle of the Open Door and Equal Opportunity enunciated by Secretary of State John Hay in 1899 shielding her intentions, sought to purchase the South Manchuria Railway in order to gain commercial rights and a foothold on the Asiatic continent, by utilizing the gratitude toward the services which America had given in bringing together the representatives of the warring states at Portsmouth. Lloyd C. Grisscom, then the Ambassador to Tokyo, envisaged a grand future for American expansion in this part of the Far East. He developed the belief that America's influence in the Far East must be expanded, her commercial rights must be pushed and the vast transportation system traversing Manchuria, Siberia and Europe should be placed under American influence or control. In order to carry out this gigantic over-ambitious plan, the Chinese Eastern Railway must first be purchased, the South Manchuria Railway must be vested in American hands, and finally, the Trans-Siberian Railway running toward Europe must be acquired. At any rate, Ambassador Grisscom entreated Mr. E. H. Harriman, who was then the king of American railroad industry and president of the transcontinental, the Great Northern, to visit Japan with this specific purpose in mind. Since Japanese finance was in a none too pleasant situation, there were certain groups in Japan that advocated the placing of the South Manchuria Railway under a joint Japanese-American management, but due chiefly to the vigorous opposition made by the then Foreign Minister, Jutaro Komura, participation of American capital in the operation of the



Above are interiors of two dining cars in Manchuria, that on the left is of the past. The diners of those days were good, but they lacked the modern touch seen in the Manchurian diners of to-day such as seen on the right wherein is pictured the " Dining Hall " of the super-express " Asia "

South Manchuria Railway was totally rejected, and the railway became a purely Japanese enterprise. If the enterprising Mr. Harriman had succeeded in buying over the South Manchuria Railway, there is no doubt as to the altogether different course which the history of the Far East would have taken.

In accordance with the provisions of the Treaty of Portsmouth signed on September 5, 1905, Japan inherited from Russia the Changchun-Port Arthur line which was a part of the Chinese Eastern Railway branch line, together with branches of this line, all rights, special rights and coal mines attached thereunto. For the purpose of operating this railway system, the South Manchuria Railway Company which began operations on April 1, 1907, was organized.

At the time of its organization, the South Manchuria Railway Company was capitalized at Y200,000,000. The South Manchuria Railway Company was a railway firm, but its actual work included a number of various industries having something to do with the development of Manchuria and Mongolia, though practically all of them depended upon the railway industry in one form or another. The primary aims in carrying out the mission of development were :

(1) To encourage industries and enterprises necessary to the development of Manchuria and Mongolia by inviting Japanese technique and capital.

(2) Since the conditions and situation in Manchuria and Mongolia were not well known to the Japanese market at that time (initial stage) it was considered more desirable and convenient for capitalists to have the South Manchuria Railway with its strong financial foundation to invest in development enterprises, than the direct participation of Japanese capital.

(3) The management of enterprises dependent upon railways during the initial stage by the South Manchuria Railway Company, was considered most efficient and important.

In conformity with the above principles, the South Manchuria Railway Company pursued the policy of engaging directly in various enterprises.*

The South Manchuria Railway Company, which was established for the purpose of carrying out the continental policy of Japan, has fulfilled its mission in cultural and industrial development as a colonial railway and completed the construction of the two great feeder lines, the Changchun-Kirin and Ssupingkai-Taonan lines.

On the other hand, the Chinese Eastern Railway, as it has already been referred to above, was placed under an international management for a time following the Russian Revolution, but since then, the Chinese stripped the Railway of its rights, and then proceeded to reduce it to a pure commercial enterprise in 1924 as a result of the Mukden Agreement signed with Soviet Russia.

In short, the Second State was a period which saw Japan exert exceptional efforts to cultivate and strengthen her influence, while on the other hand, it was within this same period that Russian influence began to make a general retreat.

The Third Stage—1924-1931

The world-wide racial movement that was launched after the World War, also had a considerable effect upon China from where it spread into Manchuria, and transformed into an active movement for the recovery of railway rights. As a result, China's campaign to build railways with her own technique and capital soon engulfed the whole of Manchuria. The Chinese Eastern Railway which had been badly weakened by that time, became that initial Chinese objective, and due to the pitiful state of internal conditions, the Chinese Eastern Railway was unable to prevent the realization of the aims entertained by the former Chinese Regime in Manchuria. Encouraged by the impotent reaction of the Russians, the Chinese local authorities combined forces with the Central Chinese Regime and directed their ambitious attention at Japan. The enterprises and everyday life of Japanese and Chosenese residents of Manchuria were made to suffer, and the South Manchuria Railway was tendered a serious threat when the Chinese began to carry out their policy of encircling the South Manchuria Railway and of squeezing the economic value and life out of it. The Transportation Committee of the Northeastern Regime strongly advocated the carrying out of their wily plan in its report in the following phraseology :

> There is no other way to keep the Chinese Eastern Railway and the South Manchuria Railway in check than to complete our railway construction plan, but first of all, the South Manchuria Railway system must be curtailed since it is the most important railway system in Manchuria, while at the same time, the Chinese Eastern Railway must be severed, and connected with the Peining Railway at the terminal (Hulutao) of which a first-class port must be built as an assemblage and shipping point of export commodities. This will not only crush the South Manchuria Railway, but will also have a serious effect upon the Chinese Eastern Railway.

The lines that were speedily constructed and which form a part of the present-day Manchoukuo State Railways, are the Tahushan-Tungliao (completed in 1927), Mukden-Kirin (completed in 1929), and Tsitsihar-Taian (completed in 1930) lines. In addition, the contract for the construction of the port of Hulutao was granted to a Dutch concern in 1930. Under such circumstances, there was no hope for abating Sino-Japanese diplomatic controversies, while the acute situation soon developed into a serious political problem, and the policy of driving out the Japanese, became more effective with the passing of each day until on September 18, 1931, the charge leading to the Manchurian Incident was finally ignited.

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*At a later date, the South Manchuria Railway Company relinquished control over a number of enterprises in favor of independent firms, especially after the Manchurian Incident when the inflow of Japanese capital became intensified and easy, and followed the policy of assisting the management of enterprises by becoming a holding company or by creating subsidiary companies.

Fourth Stage—1931-1939

The Fourth Stage accounts for the period following the Manchurian Incident. Simultaneous with its foundation, the Manchoukuo Government declared that all railways hitherto under the supervision of the Northeastern Regime would be designated as state owned, and placed them under its management. Regarding the matter, the Manchoukuo Government arrived at the following conclusion:

> In order to maintain peace and order and to carry out industrial development, the adjustment and development of transportation facilities, especially railways, are urgent requirements. At the present time, the railway system is very inadequate, and there are a number of small independent railway companies which render unified management inconvenient. Therefore, since it is difficult to unify these independent railways, to carry out rational management, and to expect the highest economic and technical efficiency, it is considered most appropriate to entrust unification and management of railways and the carrying out of various aims to the South Manchuria Railway Company which has a long, commendable history of railway management in Manchuria behind it.
>
> This arrangement will also be beneficial to both the Manchoukuo Government and the South Manchuria Railway Company since it will facilitate liquidation of enormous liabilities of the Manchoukuo Government to the South Manchuria Railway Company.

In line with the above opinion, a contract was drawn up between the South Manchuria Railway Company and the Manchoukuo Government on February 9, 1933, by virtue of which, the former was entrusted with the management of all State Railways, supervision of water traffic on the Sungari, and various subordinate enterprises. Consequently, the South Manchuria Railway created the General Directorate of Railways (Mukden) on March 1, 1933, to manage the various facilities and to meet the demands of the new situation.

The lines transferred over to the General Directorate of Railways from the Department of Transportation of Manchoukuo, number 17 in all or 2,949.6 kilometers in length, which were formerly under the supervision of nine railway directorates, namely, Mukden-Shanhaikwan, Mukden-Hailung, Kirin-Changchun, Kirin-Tunhua, Hulan-Hailun, Tsitsihar-Koshan, Taonan-Angangchi, Taonan-Solun, and Ssupingkai-Taonan. Adjustment of loans contracted with the British and Chinese Corporation by the former regime in connection with the construction of the Mukden-Shanhaikwan Railway, was also taken over by the General Directorate of Railways. Only the North Manchuria Railway (1,730.9 kilometers long) continued to display a peculiarity through its joint Manchoukuo-Soviet Russian management, but as it has been pointed out before, this railway became a part of the State Railways of Manchoukuo in March, 1935, upon successful completion of diplomatic negotiations. Prior to this event or in September, 1933, the North Chosen Railway (Chosen Government Railway) 344.4 kilometers long and all appurtenant enterprises thereof, were entrusted to the South Manchuria Railway Company.

With this new arrangement, the entire railway system of Manchoukuo was unified for the first time under the management of the South Manchuria Railway Company.

Immediately following the advent of Manchoukuo, or in March, 1932, the Government issued a declaration announcing the adoption of the First Stage Economic Development Program and its intentions to expand port and harbor facilities, river navigation facilities, and communication facilities, and stated that "the landmark of State-owned railways in the future will be the attainment of a 15,000 kilometer-long system." During the first ten years, 4,000 kilometers of new lines will be constructed to form a 10,000 kilometer-long system together with the 6,000 kilometers of railways already in existence.

To carry out the contemplated projects embodied in the above declaration, or more precisely, the construction of new State Railways, the South Manchuria Railway Company established the Railway Construction Bureau on March 1, 1933.

With the speedy carrying out of the above measures, railway construction work has progressed at such a surprising rate that between 1932 and November 1, 1938, a total length of 3,900 kilometers of new railways were completed, which means that Manchoukuo's plan as outlined above is very close to the point of realization.

LENGTH OF MANCHOUKUO STATE RAILWAYS

(*Kilometers*)

	At the Time of Manchoukuo's Foundation (March 1, 1933)	*On November 1, 1938*
S.M.R. Lines	1,123.7	1,129.7
State Railways	2,939.0	8,661.4
North Manchuria Railway ..	1,732.4	
Private Lines	330.4	234.8
Total	6,125.5	10,025.9

The North Chosen Railways measuring 344.2 kilometers is also under the management of the S.M.R.

Lines operated temporarily are also included in the State Railways.

Recent State of Manchurian Railways

As it has already been mentioned, the authorized capital of the South Manchuria Railway Company at the time of its organization was Y200,000,000. Since then, the Company, in adapting itself to the economic development in Manchuria and the international situation, invested enormous sums in the railway and other multifarious enterprises, and in consequence, increased its capital first to Y440,000,000 in 1920 and then to Y800,000,000 in 1933.

In making a study of the enterprise appropriations of the Company, we find that enterprise appropriations for the 10th year since the organization of the Company or in 1916 amounted to only Y248,000,000, but in the 20th year or 1926, enterprise appropriations reached Y593,000,000, Y833,000,000 in the 30th year or 1936, and Y853,000,000 in 1937.

When the Company was first organized, there were only a few who believed that the income and expenditures would balance, a fact which is backed up by the action of the Japanese Government when it guaranteed a six per cent dividend.

However, with each year that passed after the Company commenced operation, income rose gradually, and the record for the past thirty years, indicates a continuous steady progress.

The incomes and expenditures, profits and dividends of the Company since 1907 or from the time of its establishment, are as follows:

INCOMES, EXPENDITURES AND PROFITS OF THE SOUTH MANCHURIA RAILWAY COMPANY

(*In 1,000 yen*)

Year	*Income*	*Expenditure*	*Profit*	*Percentage of Profit to Capital*
1907	12,543	10,526	2,017	2.0
1912	33,546	28,620	4,926	4.5
1916	52,412	42,295	10,107	7.8
1921	147,100	115,714	31,386	10.3
1925	201,598	166,733	34,865	10.8
1926	215,615	181,157	34,158	10.1
1927	230,558	194,284	36,274	10.5
1928	249,428	197,875	42,553	11.9
1929	240,998	195,492	45,506	11.8
1930	188,104	166,431	21,673	5.6
1931	187,054	174,456	12,598	3.3
1932	245,941	184,653	61,288	15.3
1933	248,002	205,081	42,921	8.9
1934	270,669	224,202	46,467	8.8
1935	302,159	252,535	49,624	8.8
1936	299,044	248,871	50,174	8.3
1937	355,048	281,119	73,929	11.4

Moreover, figures representing enormous sums which the South Manchuria Railway has appropriated from incomes from railways for cultural and industrial development in Manchuria, and the great contributions which it has made toward this end, will be omitted for the sake of brevity.

The achievement of State Railways in transportation again betrayed the groundless fear entertained by the people and showed considerable advancement year after year in striking resemblance to the initial stage of the South Manchuria Railway Company. This fact proves best the improvement and advancement of Manchoukuo's administration and development, and points out the prospective outlook of the country's future. At the same time, this fact proves once more that the Manchurian railway system is not only serving defence purposes alone, but also as a typical development railway system.

The following table gives the volume of passenger and freight traffic handled by the State Railways in recent times:

PASSENGER AND FREIGHT TRAFFIC HANDLED BY STATE RAILWAYS

PASSENGERS

Year	*Total No. of Passengers*	*Index No.*	*Income from Passenger Fares*	*Index No.*
1933	7,869,000	100	Y14,711,000	100
1934	8,814,000	111	16,893,000	114
1935	13,279,000	168	27,825,000	187
1936	16,697,000	212	33,540,000	227
1937	20,635,161	262	41,561,000	282
1938	14,813,802	188	28,187,000	191

FREIGHT

Year	*Agricultural Products*	*Timber*	*Minerals*	*Aquatic Products*	*Livestock Products*	*Others*	*Total*	*Percentage*	*Income (Yen)*	*Percentage*
1933	2,178	—	—	—	—	4,285	6,463	100	36,080,000	100
1934	2,966	841	1,362	122	42	1,830	7,163	111	48,106,000	133
1935	3,725	1,001	1,674	185	73	2,971	9,629	149	65,363,000	181
1936	4,406	1,346	2,318	246	110	3,407	11,833	183	86,212,000	239
1937	4,647	1,358	2,112	375	112	12,447	21,050	325	103,452,276	286
1938	2,013	1,116	1,677	104	86	7,947	12,943	200	61,562,705	170

Figures for 1938 are for April to October, of the same year.

Exploitation of natural resources in Manchuria is going on at a rapid rate in parallel with the construction of new railways, but at the time when the construction of new lines was begun after the Manchurian Incident, there was no way of determining accurately, the amount of mineral deposits and no definite plan for the industrial development of undeveloped regions could be formulated. In consequence, the volume of railway traffic was uncertain, and it was not unnatural that a pessimistic view had been held by many.

Therefore, the General Directorate of Railways assembled in 1934, a force of about 50 or 60 transportation and industrial experts to form a State Railways Research Committee, and entrusted this body with research in connection with the formulation of a ten-year industrial development and railway operation plan. The results of this survey contributed much toward the adoption of plans for the development of resources which are necessary for balancing incomes and expenditures of railway enterprises in the future, and at the same time were used as the basic material for the drafting of the famous Five-Year Industrial Development Plan of Manchoukuo.

In contrast to the current situation when the ten-year plan was drawn up, the accomplishments made since then and up to the present time, have far exceeded the standards set by the plan. The new lines built in undeveloped regions have produced admirable results much sooner than expected and new commodities for transportation have appeared in spite of the not too pleasant forecast that had been made.

As an example, the belief that the regions along the Peian-Heiho line were entirely unsuitable for agriculture due to the exceptionally severe winter was proven false, and on the contrary, it was found that these regions were extremelysuitable for the cultivation of soya beans, wheat and other agricultural products. Considerable quantities of these products have already been marketed. Furthermore, Taheiho, the northern extremity of this line, has been transformed overnight into a prosperous shipping point of timber floated down the Heiho River; large quantities of wheat produced in the vicinity are now being shipped on the Ningnien-Mergen line; the regions bordering the Jehol-Chihfeng line which had been previously regarded as desert barren land, are presently shipping soya beans and kaoliang to North China markets; and the brisk traffic of agricultural products in East Manchuria and the tremendous timber traffic that has been the result of the laying of new timber transport lines and which has created a bustling atmosphere at each station, are but a few examples of the change that would be brought about by the construction of new railways.

CHEMICAL INDUSTRY IN SHANGHAI

THE Sino-Japanese war has caused huge losses to Chinese chemical industries in Shanghai, as more than 2,000 chemical manufacturing plants in the vicinity of this city were destroyed or partially destroyed during the hostilities in the Shanghai-Woosung area.

In the Eastern Area of Shanghai a number of chemical factories have resumed operations. According to a Shanghai Municipal Council report among those factories 32 are Japanese, 30 British, 11 American, 12 German, and 20 Chinese. The total is 109.

There were 23 soap and candle factories with 555 workers in 1938; 36 with 1,106 workers in 1929; 13 with 628 workers in 1931; and six with 628 workers in 1933.

After the outbreak of the war, there were altogether 32 soap and candle factories in Shanghai. The China Soap Company and the International Soap Company are the largest among them. The former has 410 workers, while the latter 321 workers. The International Soap Company is said to have suffered damage to the amount of $500,000 during the war at Shanghai.

Keener competition is now seen among local soap companies than before the start of war. Among the competitors are the International Soap Company, and Ta Chong Soap Company.

Among important chemical industries are match, soap, candle, enamel, paints, cosmetics, soda, calcium, magnesium and acetylene. These industries have been on the upward trend in recent years, due to the increase in the import of chemicals. The number of Shanghai chemical factories and their workers are given below.

According to the Industrial Section of the Shanghai Municipal Council, a number of chemical factories have removed and resumed operations in the Settlement and extra-Settlement areas. Ten factories with 531 workers are operating in the extra-Settlement areas. From January to May last year 33 new factories with 343 workers were established in the International Settlement. In last November, 16 factories with 517 workers were established on Yu Yuen Road, Edinburg Road, Avenue Haig and other parts of the extra-Settlement area.

Because of the progress of chemical industries, the manufacture of chemical materials for match and dyestuffs, such as soda and acids, has been on the increase. There are seven factories in China for the manufacture of these chemicals. Two of the factories are located in Shanghai. They are the Tien Yuan Factory which manufactures hydrochloric acid and the Kiangsu Acid Factory (British enterprise) which produces sulfuric acid, hydrochloric acid and nitric acid.

	Number of factories	*Number of workers*
Acid	4	212
Soda	5	—
Candle	32	1,172
Consmetics	32	1,685
Dyestuff	2	28
Paint	11	344
Ink	11	243
Drug	19	697
Film	1	—
Enamel, etc.	24	2,233
Match	6	2,103
Others	27	1,091
Total	174	9,829

Waterworks and Power Plants in Central China

By C. C. WONG

CHINA'S first power plant was organized in 1882 by a German firm in Shanghai. It was five years before the first Japanese power plant was established in Tokyo. But till the present time, China's electrical industry has not been well developed and most of the large power plants are owned and operated by foreign concerns.

Although large numbers of Chinese waterworks and power plants were destroyed during the hostilities in the past two years, the Japanese authorities organized on June 30, 1938, the Central China Waterworks and Power Plant Corporation, in an attempt to develop the central China provinces industrially.

China's power plants were concentrated in the seven provinces of Central China prior to the outbreak of hostilities. According to a Chinese investigation in 1935, there were 307 power plants in Kiangsu, Chekiang, Anhwei, Kiangsi, Hupeh, Hunan, Szechuen provinces, representing 71 per cent of the total number of power plants in the entire country. These plants generated 396,633 kw. and 1,215,720,000 kwh. of power or 69 per cent and 78 per cent of the total of the entire country respectively.

The following tables give the details of the Chinese power plants in 1935:

(1) Chinese power plants in 1935:

Province	*Government*	*Private*	*Semi-Official*	*Sino-Foreign*	*Foreign*	*Total*
Kiangsu	2	105	—	—	2	109
Chekiang	1	104	—	—	—	105
Anhwei	1	27	1	—	—	29
Kiangsi	1	11	—	—	—	12
Hupeh..	1	15	—	—	3	19
Hunan	—	11	—	—	—	11
Szechuen	4	15	3	—	—	22
Total	10	288	4	—	5	307
Total for entire country	23	414	5	4	10	456

(2) Total kw. of electricity can be produced by these plants:

	kw.	kw.	kw.		kw.	kw.
Kiangsu	29,950	75,678	—	—	211,820	317,448
Chekiang	32	32,779	—	—	—	32,811
Anhwei	1,040	3,702	20	—	—	4,762
Kiangsi	2,074	1,183	—	—	—	3,257
Hupeh..	1,600	18,246	—	—	6,525	26,371
Hunan	—	6,808	—	—	—	6,808
Szechuen	144	1,902	3,130	—	—	5,176
Total	34,840	140,298	3,150	—	218,345	396,633
Country	61,343	210,676	6,150	31,500	275,245	584,914

(3) Total kwh generated in 1935:

	Chinese managed plants kwh	*Foreign managed plants kwh*	*Total kwh*
Kiangsu	251,844,000	816,804,000	1,068,648,000
Chekiang	45,073,000	—	45,073,000
Anhwei	7,781,000	—	7,781,000
Kiangsi	4,967,000	—	4,967,000
Hupeh	59,721,000	6,782,000	56,503,000
Hunan	15,057,000	—	15,057,000
Szechuen	7,691,000	—	7,691,000
Total	392,134,000	823,586,000	1,215,720,000
Total for Entire Country	662,997,000	905,740,000	1,568,737,000

(4) Capitalization of these plants in 1935:

	Chinese plants	*Foreign plants*	*Total*
Kiangsu	$41,500,000	$164,502,000	$206,002,000
Chekiang	13,038,000	—	13,038,000
Anhwei	2,164,000	—	2,164,000
Kiangsi	1,163,000	—	1,163,000
Hupeh	4,930,000	1,800,000	6,730,000
Hunan	1,829,000	—	1,829,000
Szechuen	3,836,000	—	3,836,000
Total	$68,480,000	$166,302,000	$315,587,000

The company supplies 443,000 cubic meters of water daily. The following table gives the supply situation in different cities:

Name of City	*Daily Supply of Water Maximum Capacity cubic meters*	*Actual daily supply of water in latter part of Aug. cubic meters*
Shanghai North.. ..	111,000	37,296
Shanghai South.. ..	140,000	34,900
Pootung	20,000	1,035
Chinkiang.	55,000	35,698
Hankow	100,000	81,152
Wuchang	2,000	1,782
Hangchow	15,000	4,970
Total	443,000	196,833

After the outbreak of hostilities, a number of power plants, especially the one in Hankow and Wuchang were destroyed by the Chinese troops prior to their evacuation. The following table gives the comparison figures of the working conditions of the various power plants in central China operated by the company:

Name of City	*Before Hostilities kw*	*August-Sept. 1939 kw*
Shanghai, Chapei	34,500	22,000
Shanghai, Nantao	16,000	16,000
Shanghai, Pootung	600	600
Soochow	12,700	12,700
Changchow No. 1	17,100	17,100
Changchow No. 2	3,500	3,500
Chinkiang	5,950	5,950
Nanking, Hsiakwan	10,000	20,000 (additional 10,000 kw)
Wuhu	2,160	2,160
Anking	1,040	1,040
Kiukiang	846	464
Lushan	100	60
Nanchang	750	750
Hankow	16,500	10,500
Hanyang	208	—
Wuchang	1,600	—
Sunkiang	223	223
Hangchow, Yinshanmeng	2,000	3,000
Hangchow, Zakow	15,000	—
Yangchow, Chenyang	3,500	3,500

The number of households using electricity during the past few months has been increased, according to the following tables compiled by the company:

(1) Number of households using electric light:

City	*August, 1939*	*April, 1939*	*December, 1938*	*August, 1938*
Shanghai	8,500	6,065	4,074	1,464
Soochow	13,546	13,386	7,468	—
Wusih	7,338	6,727	5,840	3,588
Changchow	3,663	3,244	2,823	1,250
Chinkiang.	5,698	5,350	4,379	—
Nanking	4,356	2,418	1,375	1,067
Anking	222	194	86	—
Wuhu	1,745	1,685	1,037	300
Kiukiang	418	217	165	—
Wuhan	1,213	853	509	—
Sunkiang	316	241	78	37
Hangchow	11,659	9,477	6,706	4,232
Total	58,674	49,858	34,540	11,938

(2) The amount of power used in the past few years in h.p.

City	*August, 1939 h.p.*	*April, 1938 h.p.*	*December, 1938 h.p.*	*August, 1938 h.p.*
Shanghai	19,308	12,942	9,730	1,536
Soochow	2,064	2,044	1,503	—
Wusih	4,715	3,911	2,800	—
Changchow	6,338	1,524	1,003	652
Chinkiang	1,630	1,641	1,605	—
Nanking	3,089	2,330	960	631
Wuhu	7	—	—	—
Hangchow	3,145	2,879	2,927	—
Total	40,639	27,476	20,548	2,819

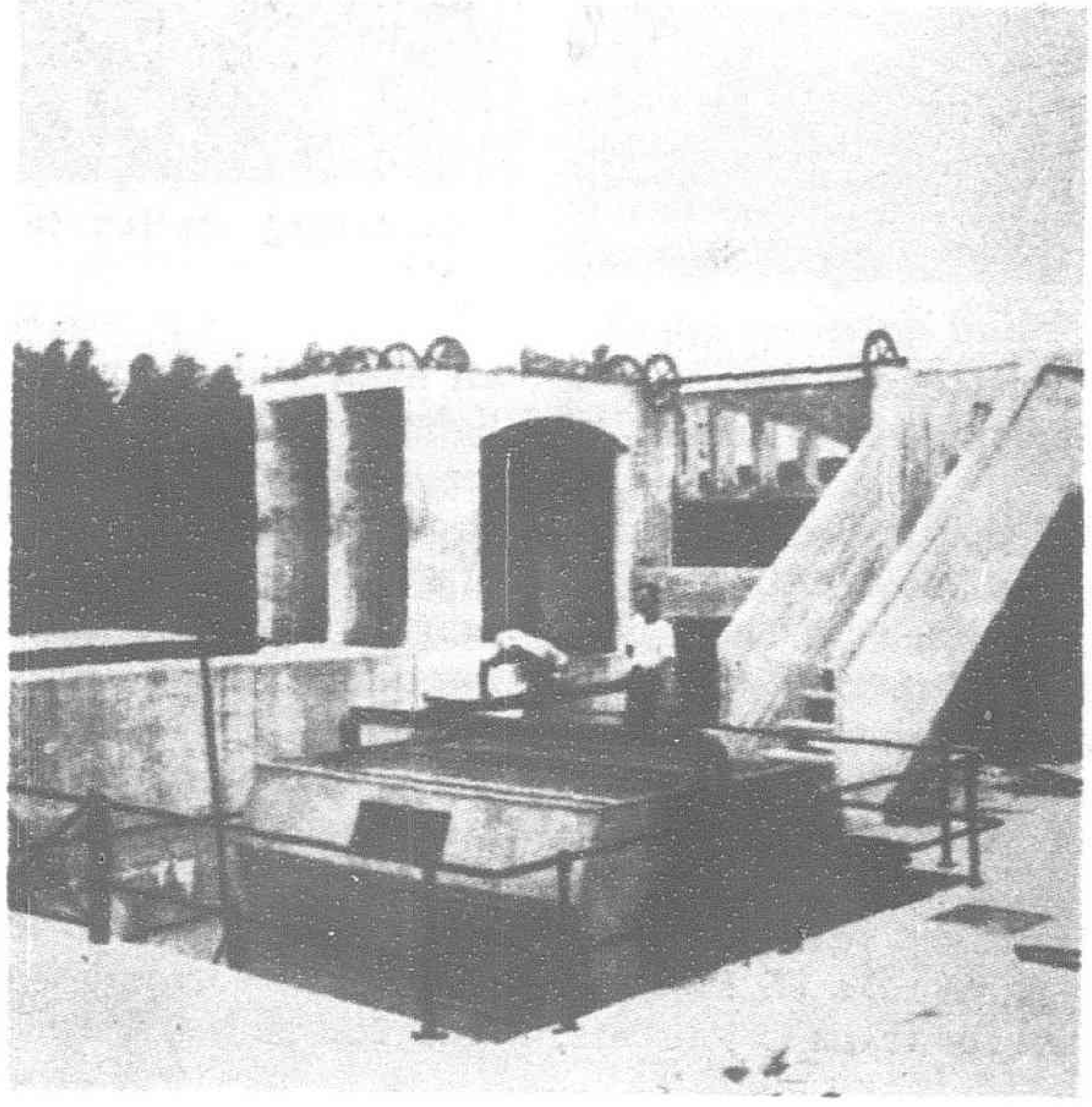
(Continued on page 37)

Electrical Progress in the Federated Malay States

By H. R. SPARROW, M.I.E.E., Adviser on Electricity, Malay States

The Federated Malay States have now reached that stage of electrical development where their industrial prosperity may well be gauged by the generated output of their power stations. The record output in units generated during 1937 was a fair indication of more satisfactory trade conditions generally than those prevailing throughout 1938.

During the early part of 1938 active trade conditions continued until the tin mining industry began to feel the effect of more severe cuts in quota under the Tin Restriction Scheme; mining operations slowed down, the generated output of those power stations supplying the mines decreased, until by the end of the year many mines had closed down, the output of generating stations had dropped considerably and slump conditions were experienced. The States most affected were the primary tin producing States of Perak and Selangor.



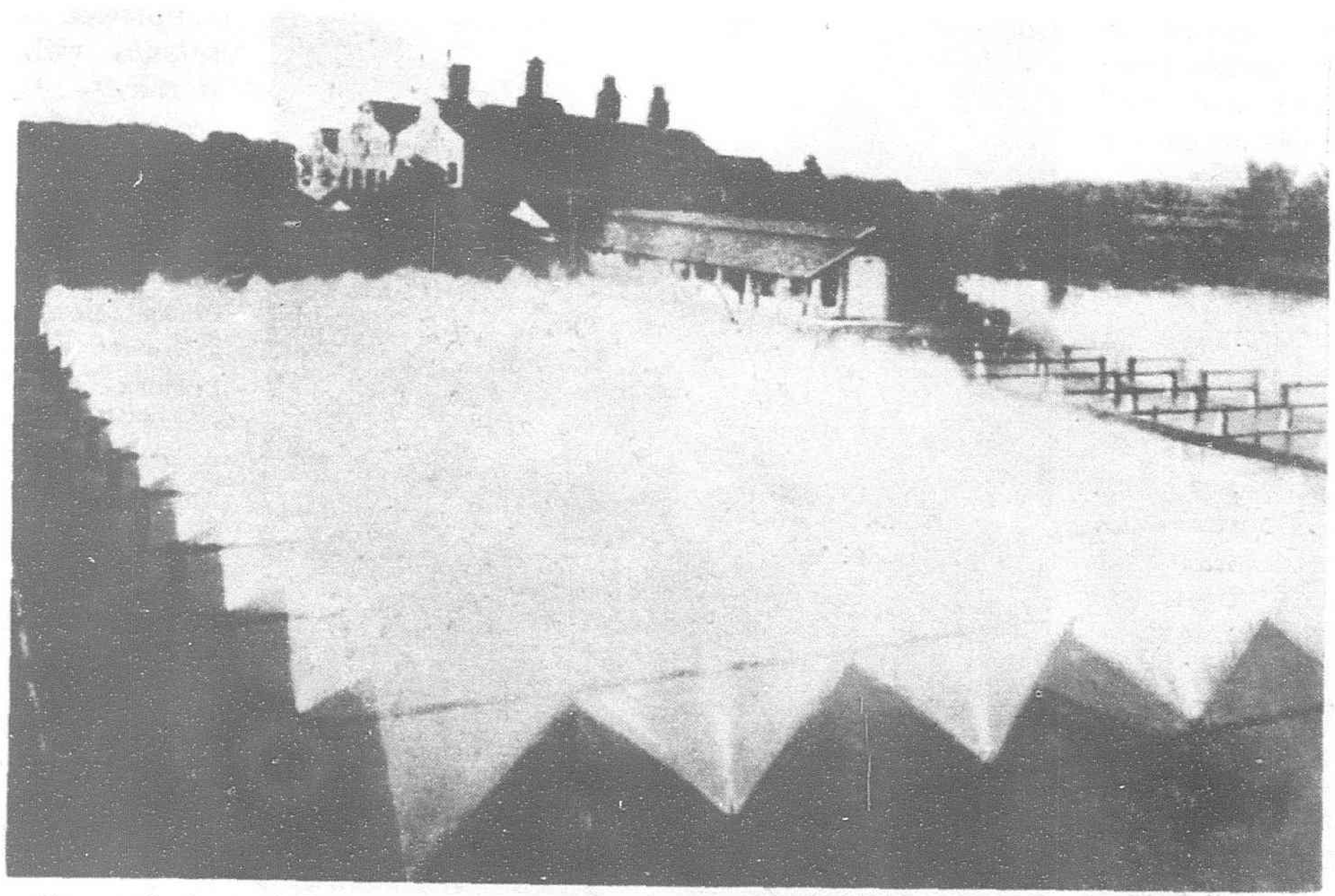
Rotary water screening plant

The total accounted units generated in the four Federated States was 375,405,000 as compared with 520,970,014 during 1937 a reduction of over 27 per cent.

The marked dependence on tin mining load tends to preclude long view load factor planning and renders economic stability indeterminate. A public supply system may be called upon to operate at high load factor and at full capacity during boom periods, but with the advent of slump conditions the load may drop as much as 50 per cent in the course of a month or two, leaving lighting, domestic and small power loads to be maintained under very unfavorable conditions.

Efforts were therefore made to develop the more stable loads and during the year results showed some measure of success, for most public supply stations recorded increased sales of energy consumed for purposes other than tin mining, and every Government station throughout the Federated Malay States showed increases over the previous year in load connected, number of consumers and revenue from lighting, domestic power, small industrial power, and other general uses.

In accordance with modern tendencies supply is becoming standardized at 400/230-volts alternating 50-cycles current and small townships and villages are being developed mostly by oil driven generators. Although considerable development of water power has taken place to generate electricity for mining purposes, a satisfactory and economic means of interconnecting a number of small high load plants with little or no storage and variable flow would undoubtedly give a great impetus towards the further development of this form of power for general supply work.



General view of Bungsar Power Station showing new water cooling equipment in foreground and building extensions on left

Development of a general grid system must necessarily be slow mainly on account of the scarcity of potential load in the comparatively sparsely populated areas between the large towns. It is, however, predicted that one factor likely to influence expansion of a grid system will be the location of potential demand for electrical energy in areas remote from sources of adequate hydraulic power or cheap fuel supplies.

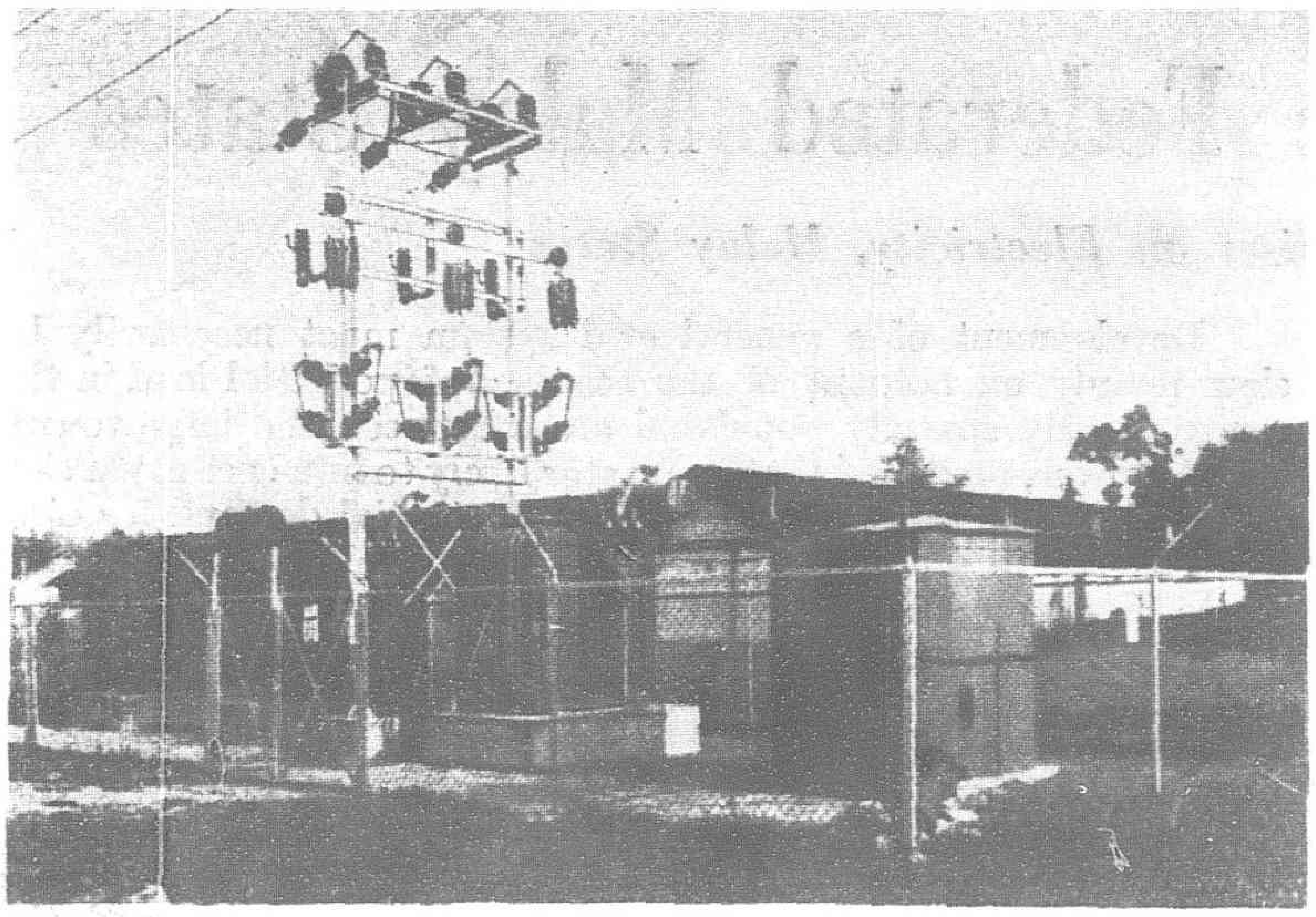
The erection and consequent maintenance of extra high tension lines in Malaya present problems somewhat different from those experienced in most European countries. In this country there are three main types of land to be traversed, namely, dense jungle, the rubber plantation and the rice or padi field, each presenting its own transmission line problems. These are self evident; the jungle must be cleared and kept clear which involves considerable annual expenditure, the rubber plantation demands compensation for clearing; while the transmission line which traverses padi land must be specially constructed to withstand flooding.

Line construction work at Home, where the country is mainly open, is very different from that in Malaya. Here the preliminary survey work is very difficult owing to dense undergrowth and the personal discomforts experienced generally in tropical countries; the difficulties are such that work which could be accomplished in a matter of hours at Home might take days, and in extreme cases, even weeks to carry out.

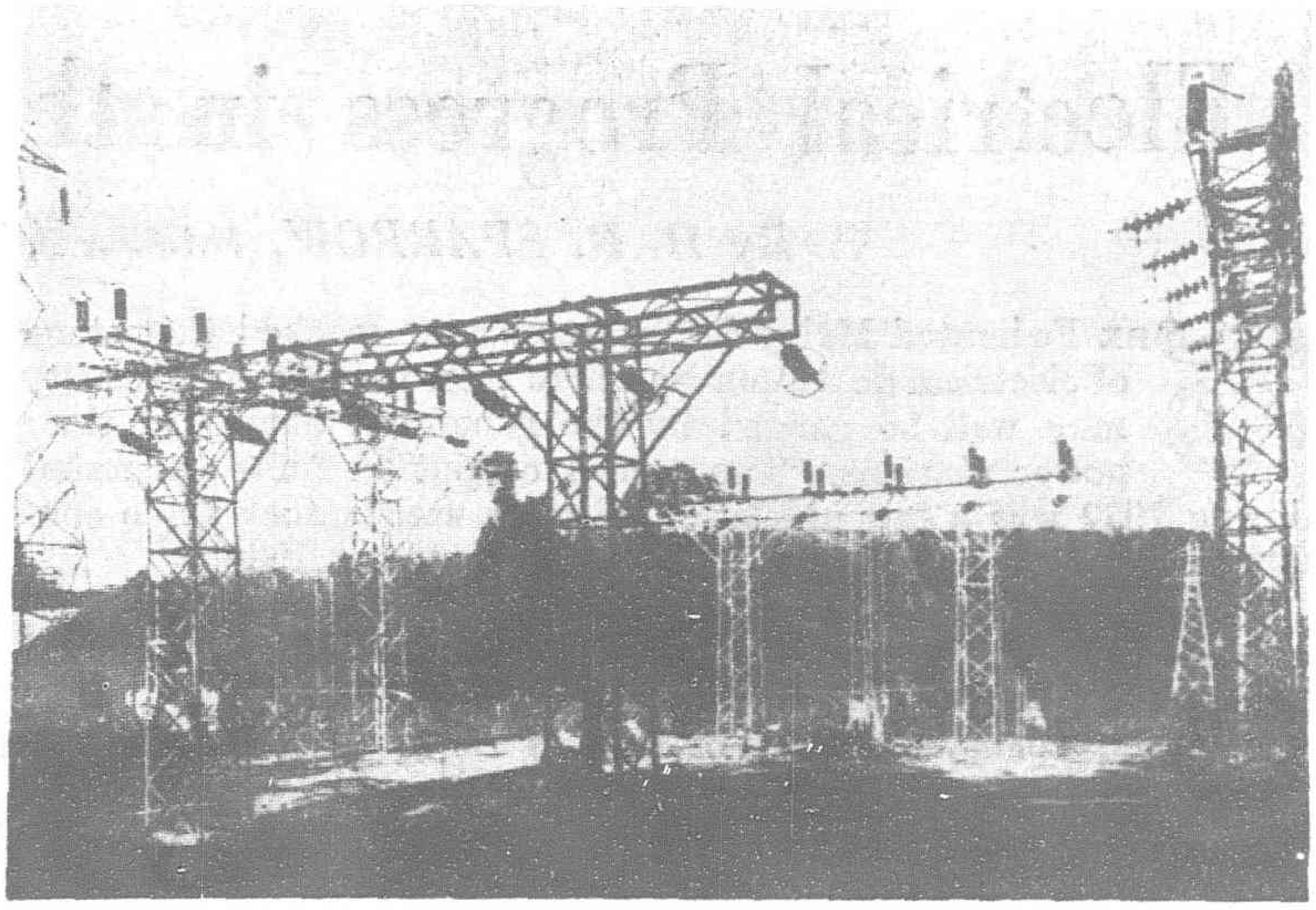
It may be of interest to mention what the construction of a high voltage transmission line entails in labor, transport and other expenses. An electrification scheme comprising a 66 kilovolts double circuit transmission line is at present in hand in Selangor, which necessitates the clearing of a two chains wide reserve through 14 miles of jungle between Kuala Lumpur and Klang. The total area of jungle to be cleared in this case is no less than 224 acres, and the cost works out at an average of £7 per acre, which, considering the dense nature of the jungle, may appear to be a fairly low figure.

In addition the route passes through large rubber estates and the cost of compensation for felling rubber trees averages from £50 to £80 per acre depending on the quality of the rubber. These two items constitute an expenditure which has to be met before any actual construction work is started.

Once the line reserve is cleared of vegetation it becomes the engineers duty to keep it clear, which is no mean task, besides being an expensive item



Mining Sub-station



Switching station in Sungei Buloh Forest Reserve, for Klang transmission line

against maintenance costs. Even if left unattended for only a few weeks, growth is so rapid in this country that it would be necessary to start cutting all over again.

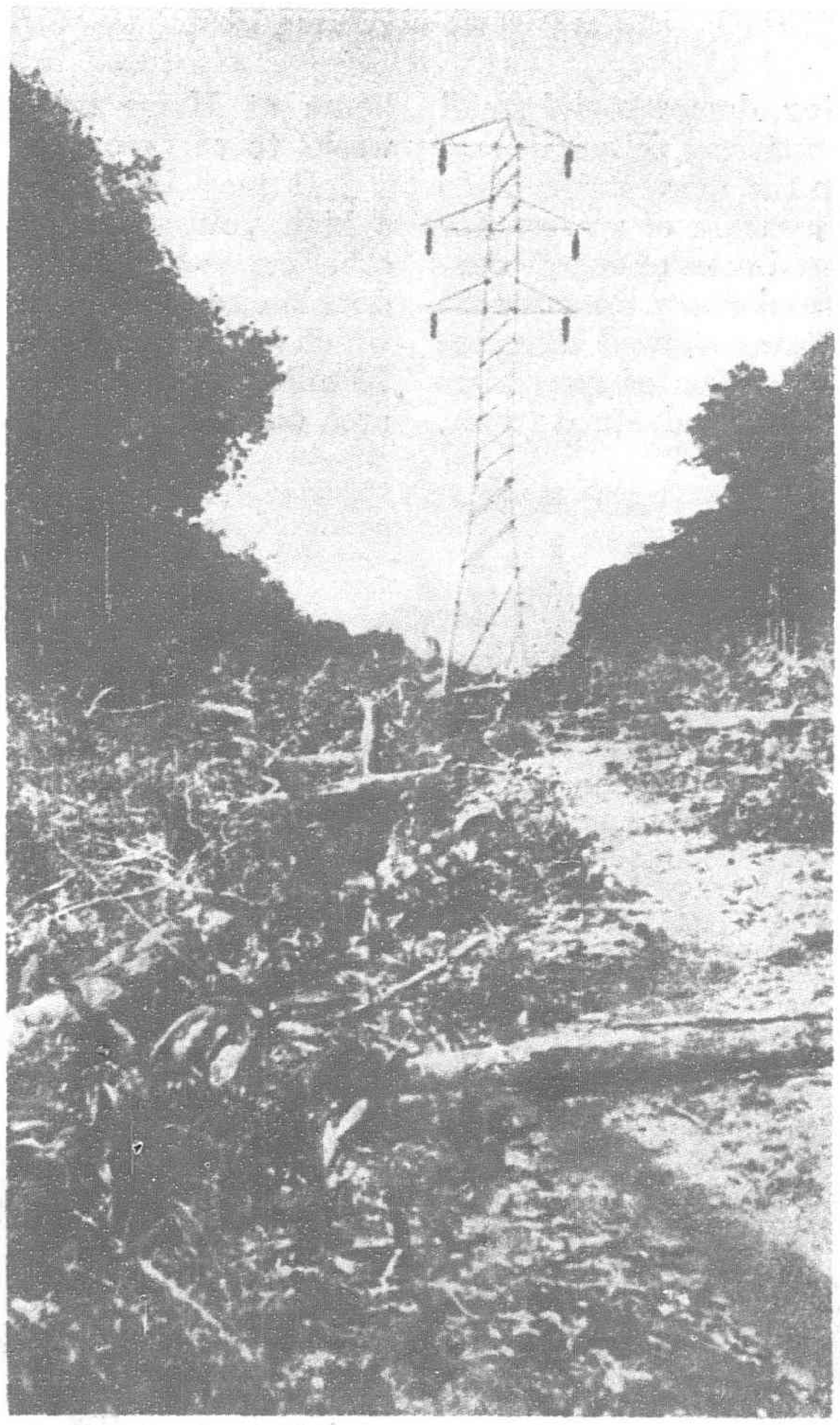
As an example, it might be mentioned that in one instance, some years ago, a stretch of line reserve was left unattended for a few weeks, while the remainder of the new line was being constructed, and during this comparatively short period the once open reserve became a veritable banana plantation with undergrowth so dense that it took the engineer in charge five hours of strenuous walking to traverse a distance of between four and five miles.

From the construction point of view transport constitutes one of the major difficulties. The component parts of a 66 kilovolts double circuit transmission line when packed for transport to site, may comprise as many as 240 separate packages of a total weight of 19 tons per route mile. In many instances the towers have to be carried three or four miles through jungle by the workmen and it was estimated in this case that to transport 263 tons of steel for the 14 miles of line, the workmen traversed an aggregate distance of approximately 121 miles over rough jungle paths; the cost of this work alone averaging £3 per tower.

The above figures are in addition to having paid a certain percentage of the cost of the line as freight charges from Europe and further local rail and transport charges to the most accessible points of the line route.

The health of the construction gangs is a very important factor. Construction camps are selected at the most suitable sites along the jungle route of the line, drained and all surrounding undergrowth cleared. A construction camp usually consists of about 30 workmen and each week they are given a dose of Prophylactic Atebrin as a malarial preventive. Fresh water is transported by lorries daily from the nearest source of supply which might be several miles distant from camp.

Four such camps are at present located on different sections of the line route.



Klang transmission line as it was when under construction

The problem of maintaining continuity of supply in this country is rendered more difficult by the severe elemental conditions prevailing. A wide daily temperature variation coupled with an even wider range of humidity; the frequency and severity of lightning storms, generally preceded by winds of gale force, call for high standards of materials and workmanship throughout. Protection of systems must necessarily become a specialized branch of study and it speaks well for the progress of this science that nowadays it is possible to render high voltage lines practically immune to most electrical disturbances other than direct lightning strikes.

The Department has, for some years, been considering ways and means of dealing with the number of momentary interruptions of supply from transient faults caused, through lightning flashes setting up surges on the transmission lines. Selangor mining consumers, in particular, will be pleased to learn that apparatus now installed at the Bungsar Power Station is expected to prevent such interruptions.

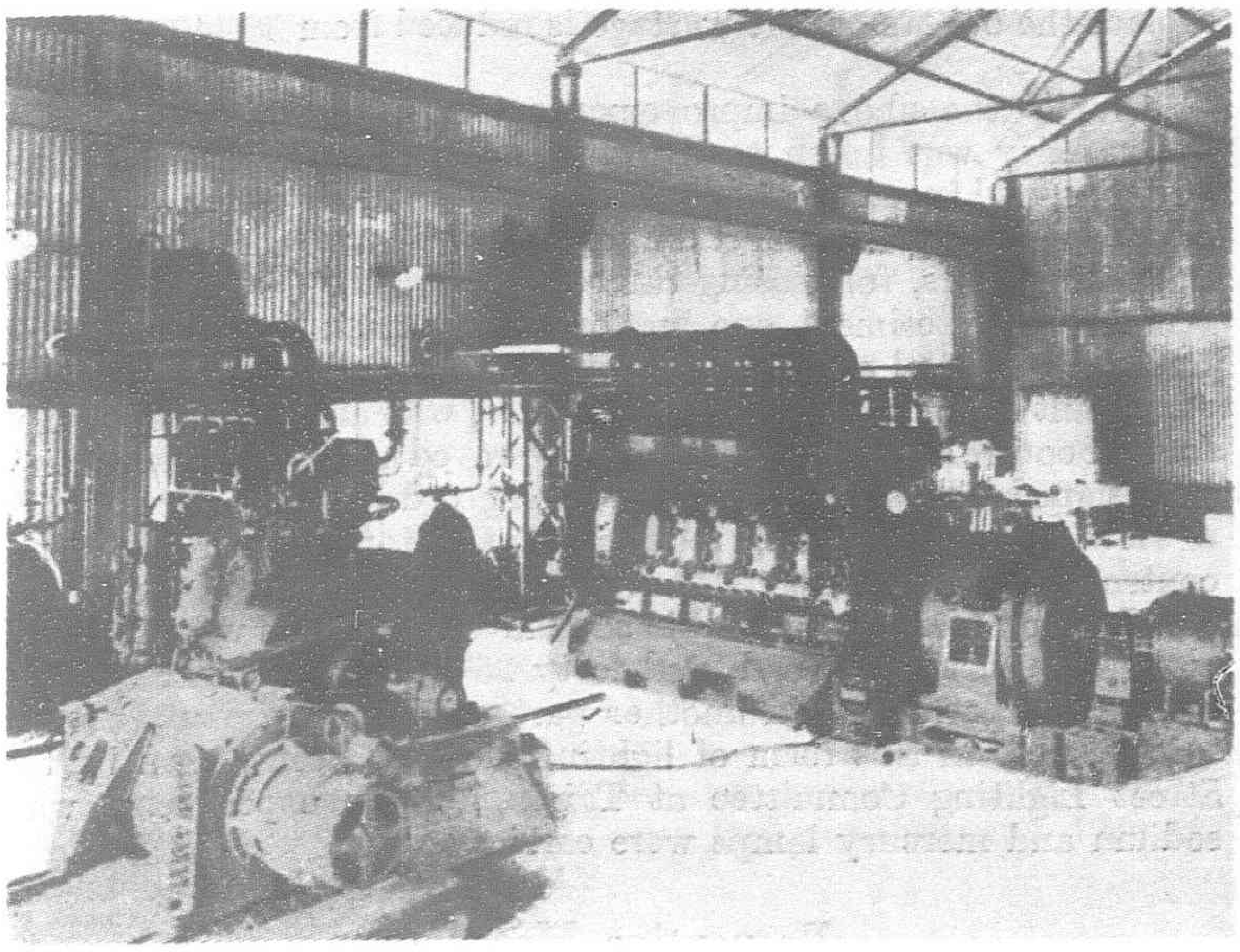
The year of 1938 was notable for the comparatively large number of schemes prepared by Government and private supply undertakings for supplying small townships and villages in the Federated Malay States, viz., nine in Perak, two in Negri Sembilan, three in Pahang and one in Selangor.

Unfortunately delay in delivery of plant and materials from Home, due to armament priority orders, prevented the majority of the schemes being completed, although in some cases, indents were dispatched as early as March.

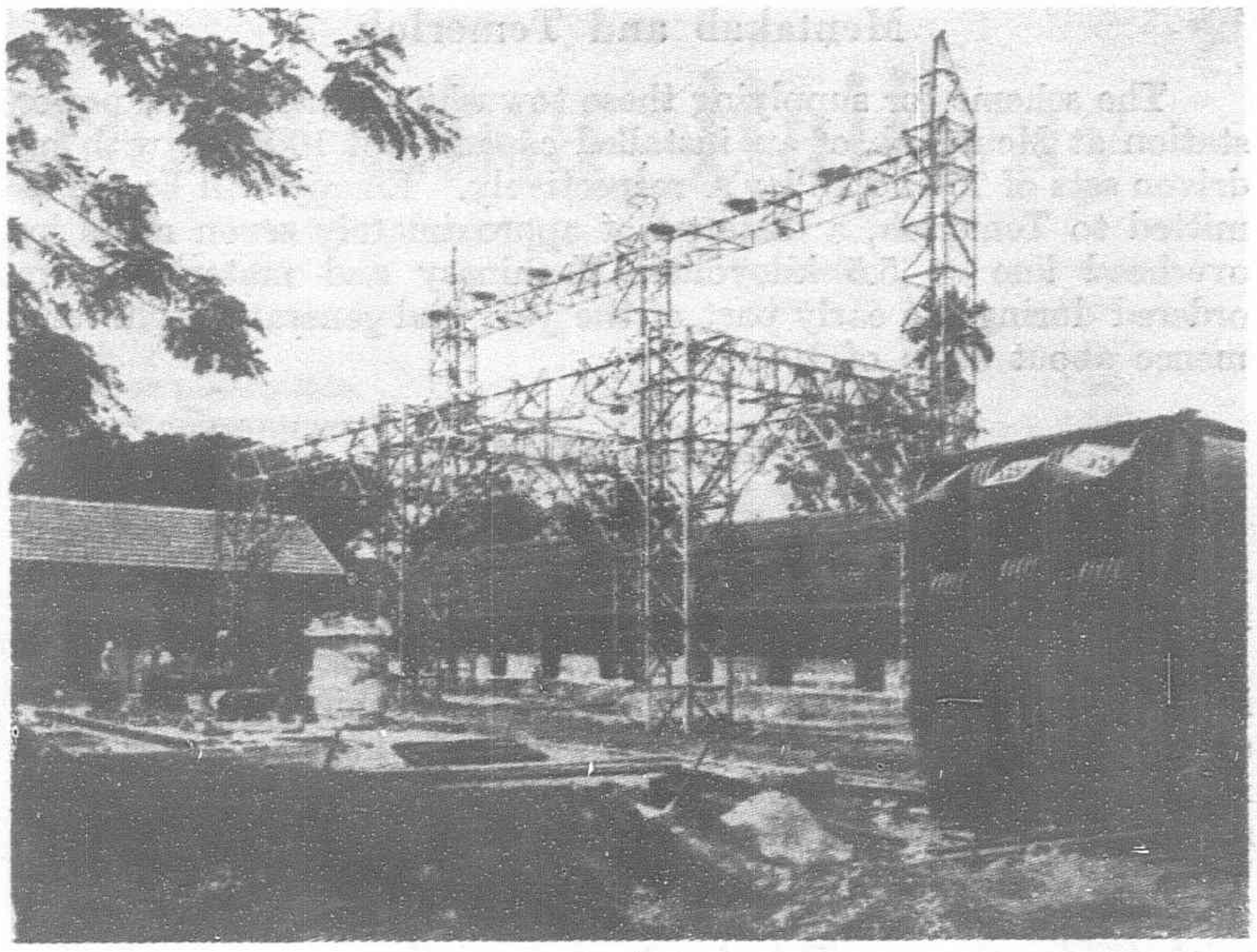
Government Extensions

The extension of the Bungsar Power Station, Kuala Lumpur by the installation of an additional 12,500 kilowatt set, two 75,000 lbs. per hour boilers and the associated auxiliary plant, has made steady and satisfactory progress. These extensions were in all respects, complete and the new plant in commission by July, 1939, when the total installed generating capacity was 31,500 kilowatts.

It may not be generally realized that this particular extension involved practically the same amount of work as would have been necessary to construct and equip a complete new power station. In fact the extension may be considered as a new and self-contained power station joined on to that previously existing.



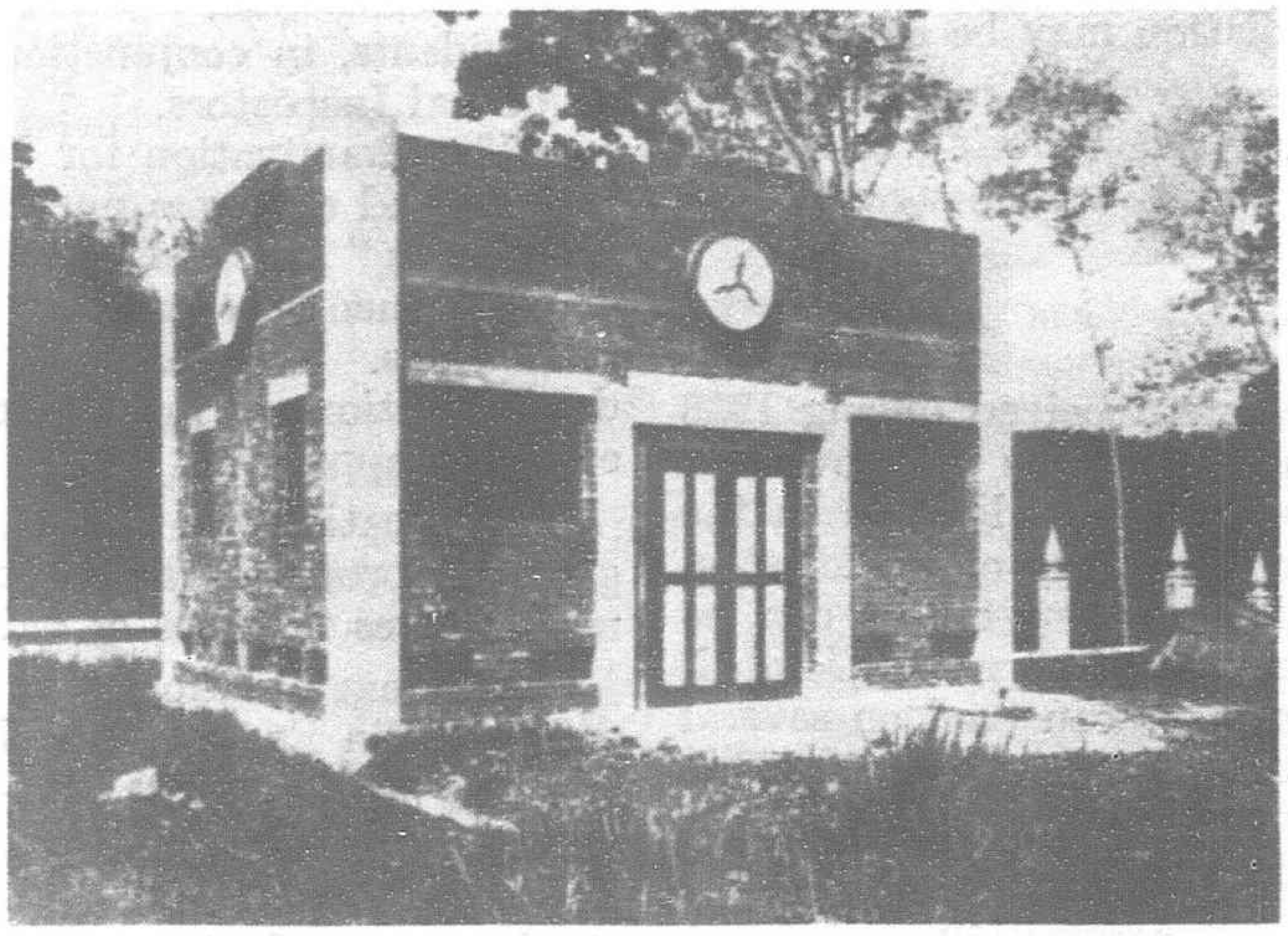
Typical power station for small townships



Klang receiving Sub-station 66/11 kv when under construction

To afford the reader some idea of what is involved in the way of auxiliary gear it may be of interest to state that the new generating set requires some 20,000 gallons of cool water per minute for purposes of steam condensation. As steam is condensed, so the cool water becomes heated, and as Bungsar is not located adjacent to an unlimited supply of cool water, it is necessary to continually reduce the temperature of the water by artificial means. In practice, this is accomplished by pumping the water through nozzles under pressure where it is broken up into a fine spray and gives up some of its heat to the surrounding atmosphere. To meet the requirements of the new generating set it has been necessary to design and construct extensive underground reinforced concrete flumes, automatic screening chamber and change over gates and spray cooler trays to deal with the water previously mentioned. The whole of this work was undertaken by the Drainage and Irrigation Department, Malay States. The design and supervision of the construction of all building and machinery foundation work was undertaken by the Public Works Department, Selangor. To both these Departments the Electrical Department tenders its thanks for their willing co-operation and active assistance.

The pumping plant, switchgear, automatic screening plant and all pipework were installed by the Electrical Department's Engineers and staff.



New type reinforced concrete Sub-station for Selangor

Kuala Kubu Bharu

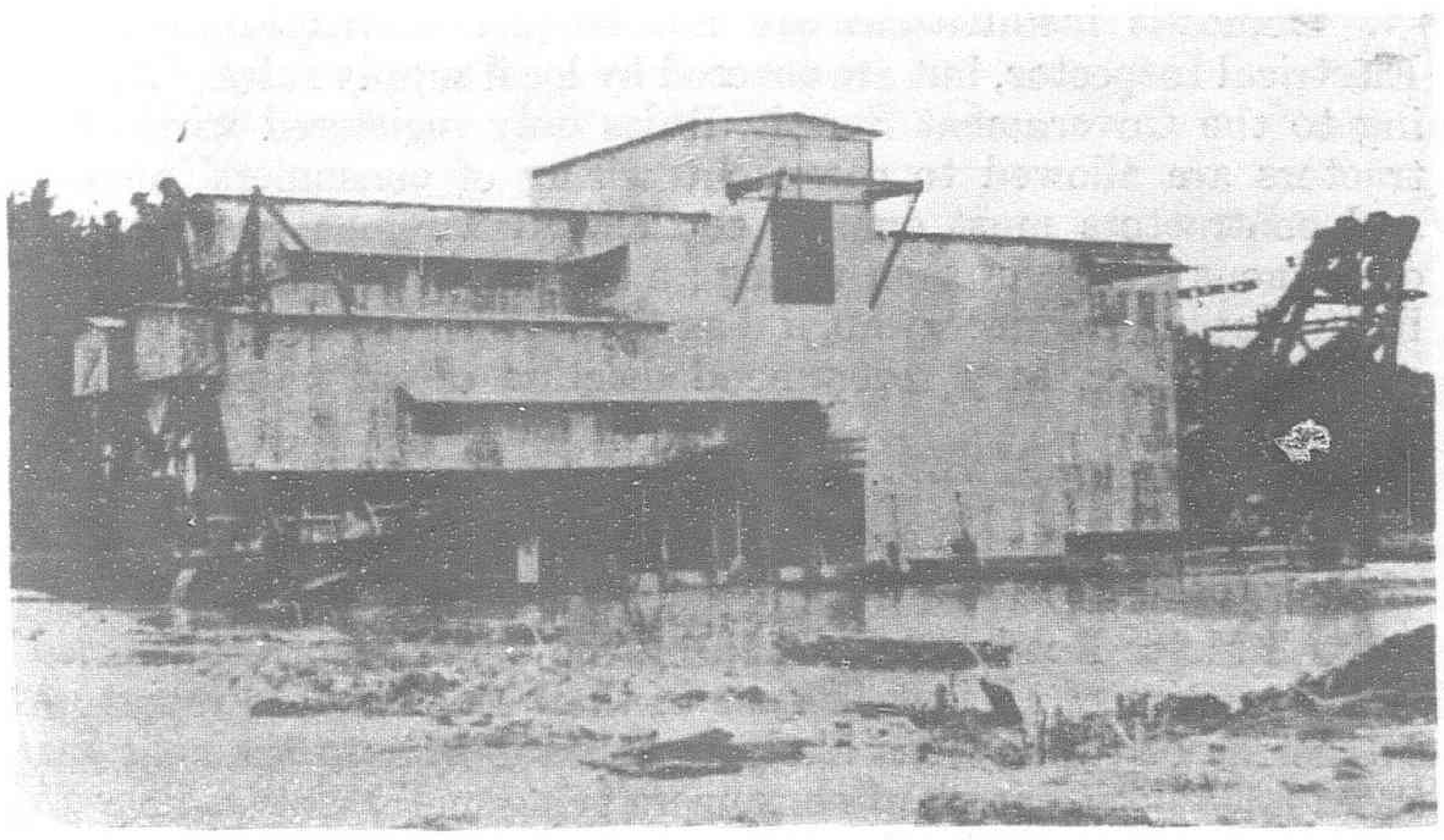
The power station building, quarters and all mains were completed during the latter half of 1938 but the machinery had not arrived at the close of the year. This station will be equipped with two Diesel driven sets of 75 and 25 kilowatts capacity respectively.

As the site of the power station is some distance away from the town, a high tension line at 5,500-volts transmits power to a sub-station in the center of the town, distribution being at 400/230-volts, 50-cycles. This station was completed in 1939.

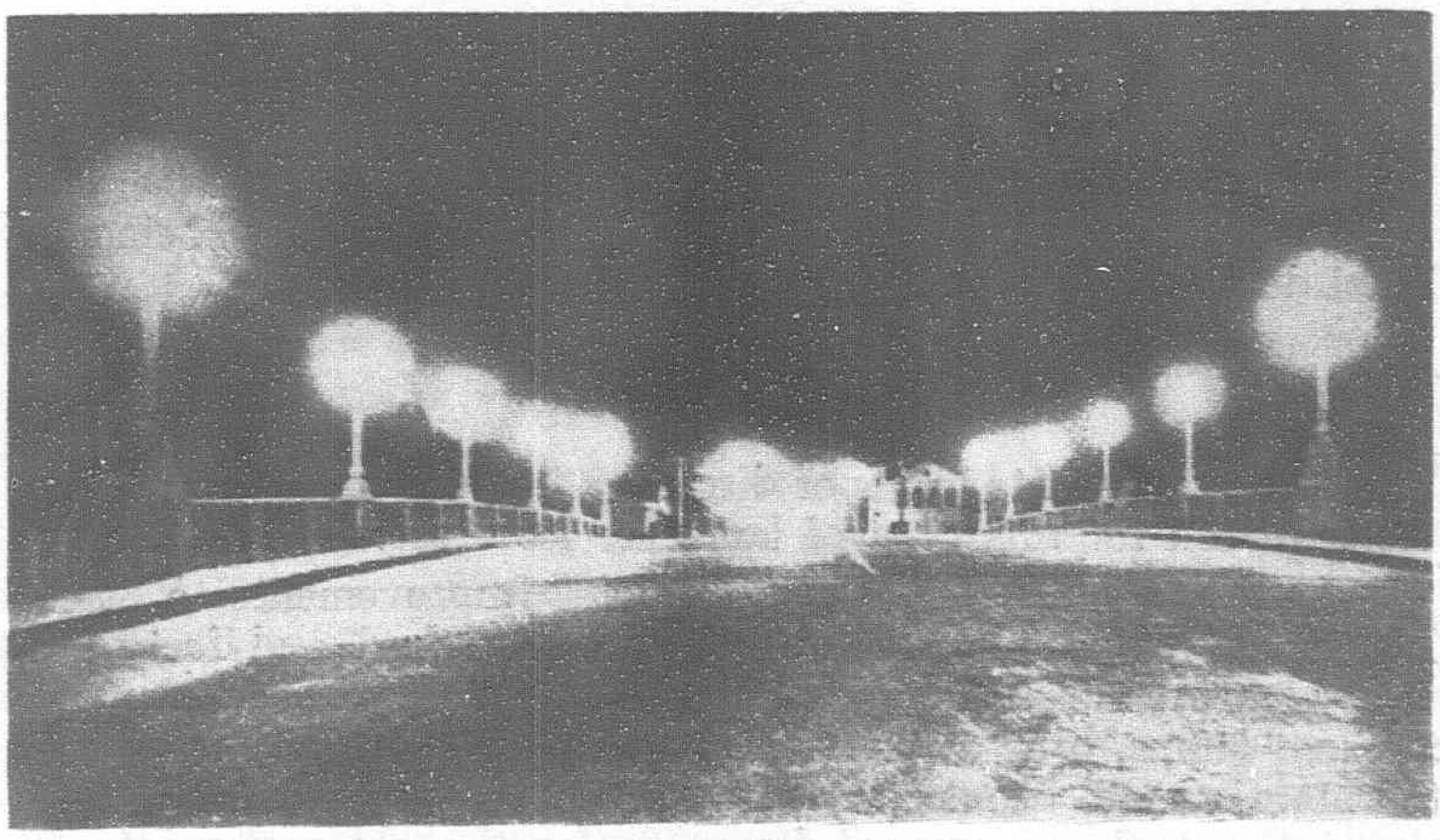
Bentong

This township is supplied in bulk from the Tin Bentong No Liability Co., Ltd's power station which generates energy for mining purposes. When this department was notified that the above company would be terminating mining activities in the Bentong area at the end of 1938, indents were dispatched during March for plant and materials for a new oil driven generating station; two generating sets being ordered of 75 and 25 kilowatts capacity respectively.

Delay in delivery of plant from Home prevented completion of this station before the close of the year. It was completed in January, 1939.



Malay States tin electrical dredge



Birch Bridge, Brewster Road, Ipoh—high pressure mercury vapor lamps

Mentakab and Temerloh

The scheme for supplying these townships consists of a power station at Mentakab of an installed capacity of 100 kw. with oil driven sets of 75 and 25 kw's. respectively. Energy will be transmitted to Temerloh, a distance of approximately seven miles by overhead line at 5.5 kilovolts. Machinery and materials were ordered during the early part of the year and generation will commence about June of 1939.

Fraser's Hill

A scheme for supplying this popular Hill Station was first considered as early as 1921, but for reasons mainly influenced by industrial depressions, this scheme was not sanctioned until 1937.

From the engineering point of view, this scheme presented interesting aspects. The jungle beauty of the hill had to be preserved, but at the same time, costs were to be kept as low as commensurate with the future financial return of the station when running. The power station had to be located where there would be no noise interference, and the distribution mains had to be of short lengths to reduce tree cutting to the very minimum. Added to these was the question of voltage regulation.

Altogether four detailed schemes were prepared before the final choice was made. The scheme adopted is considered most suitable for the wild nature of the area to be supplied and consists of a power station containing 50 and 25 kw. oil driven sets located below the "Red Cross" bungalow. Generation will be at 400-volts; transmission at 2,200-volts by underground cable feeding nine 25 kw. indoor type sub-stations, each sub-station supplying a group of bungalows; distribution by short lengths of overhead mains at 400/230-volt alternating current, 50-cycles. When completed excellent voltage regulation may be expected.

Machinery and materials commenced to arrive in 1938 during the latter part of November and construction work was started during the middle half of December. Supply was inaugurated on March 1, 1939.

Consumers' Section

The increasing number of applications received during 1938 for free advice on general lighting matters, tends to show that the public are realizing the advantages of better lighting in the home, office and club. Practical demonstrations of model shop window lighting, interior lighting and decorative effects can be shown to those interested at the departmental show room, Gombak Lane, Kuala Lumpur. The show room has been used on several occasions for cookery lectures and demonstrations by members of the Y.W.C.A., which undoubtedly has created an increased interest in domestic apparatus among local housewives.

At the 1938 Malayan-Horticultural Association Show the department exhibited a model kitchen, which was pleasing and attractive, and favorable comments were received from all sections of the community. The many enquiries made, at the time, regarding the correct use of each piece of apparatus shows the growing public interest in electricity in the home.

Air Conditioning

The year was also notable for the progress made in the adoption of air-conditioning in this country, which is daily growing in popularity. It may safely be predicted that in due course the public will regard the air-conditioned room as essential as the refrigerator. At the close of the year schemes for air-conditioning a local cinema, hotel dining-room and new offices were well advanced.

Street Lighting

The experiments in vapor discharge lighting resulted in orders being placed for this type of lamp for local use.

In Kuala Lumpur the program of "Improvements to Street Lighting" included the erection of one hundred and forty 250 watt high pressure mercury discharge lamps to replace 113 metal filament lamps, over a route length of approximately one mile of the main streets. Under the new system of lighting the illumination intensity has increased from 16 (for the old system) to 36 lumens per watt, and although a larger number of discharge lamps replace the old lamps, the wattage is reduced from 38,440 to 35,000 watts.

While the above improvements were being carried out the opportunity was taken to dispense with numerous existing time switches, and incorporating an automatic control system consisting of one master time switch and a number of relays, remotely situated in feeder pillars, for closing the several circuits.

As an experiment one section of the town lighting was put under the control of an air raid precaution master switch, located at a point easily accessible to the Police, who are interested in this form of control. The experiment has proved successful, and specially designed relays are accordingly being ordered from Home, with a view to placing other sections of the town under the same control.

In Ipoh forty-six 150 watt sodium vapor lamps were installed along one particular road, and forty 250 watt and eight 80 watt mercury vapor lamps in another part of the town.

Interest in this form of lighting has also been shown by the Street Lighting Committee at Taiping, where experiments with sodium and mercury lamps were carried out.

Preventive Measures

The number of accidents which occur are creditably few considering the arduous conditions of temperature and humidity under which all types of insulated wires must operate, and which inevitably result in more rapid deterioration than in non-tropical countries; also the fact that the majority of the general public is ignorant of the possible dangers of electricity.

The employment of certificated wiremen, chargemen and electrical engineers, who must pass (or be exempted from) a Government examination, is undoubtedly of assistance in the prevention of accidents, in conjunction with the inspection of plant by the Electrical Inspectors.

The examination for Electrical Engineers takes the form of written and *viva voce* questions under the control of a "Panel of Examiners" gazetted under the Electricity Enactment.

Wiremen are given practical wiring tests and oral examinations. Chargemen have to pass oral tests and practical demonstrations to prove operating experience on various types of electrical apparatus.

Applications for examination for certificates of competency are generally proportional to the demand for labor, which reach maximum figures in times of industrial prosperity.

Oral examinations for wiremen and chargemen are usually conducted in English or Malay and in extreme cases in Chinese.

The certificates of competency issued to each chargeman and wireman bears the holder's bust sized photograph and signature, but should he be unable to write, thumb impressions are taken. Duplicate certificates are filed and, copies of lost certificates are only issued after a signed and sworn statement before a civil magistrate to that effect is made.

Owners of electrical installations must forward lists of their certificated employees to the Electrical Inspector in charge of their district, and changes in certificated staff must also be notified. By this means the Government has a measure of control over all electrical installations throughout the Federated Malay States.

Domestic installations are not subject to inspection by an Electrical Inspector, but are covered by local supply rules. According to the Government Supply Rules only registered wiring contractors are allowed to carry out wiring of consumers' premises and contractors must employ certificated wiremen in direct and continuous charge of such wiring; a register of contractors is kept by the supply engineer, who, if dissatisfied with the work or conduct of a contractor, may recommend deletion of his name from the register.

Periodical wiring tests are carried out, and condemned systems must be rewired or be disconnected from the supply at the discretion of the supply engineer.

All Meter Readers employed by the department are expected to take notice of all installations in their areas and to report any extensions or connections likely to cause danger to the consumer. Cases have been known of consumers tying metal clothes lines and other wires on to parts of their house wiring, which, in a few cases, have been the cause of fatal accidents.

Business of the Central China Railway

The business condition of the Central China Railway Company for the month of September was not as good as that of the previous month, according to official statistics released by the company.

During the month, the company transported 281,675 tons of freight, which was 20,387 tons less when compared with the previous month. Total revenue collected by the company during the month was $512,024, representing a decrease of $16,028 when compared with the previous month. Deducting the sum of $70,948 paid to the contractors of workers, gross profit of the company for the month was $441,076 or $4,370 less when compared with the previous month.

The following tables give the detailed conditions of the four railways operated by the Central China Railway Company during the month of September

(1) Number of cars used by these lines in September :

	September	*August*
Hainan Line	8,286	7,955
Haihang Line	1,774	2,130
Sooka Line	148	106
Nanning Line	701	1,276

(2) Freight sent by the four railways in September :

	tons	*tons*
Hainan Line	107,167	105,086
Haihang Line	22,991	37,355
Sooka Line	2,367	1,734
Nanning Line	8,428	17,415

(3) Freight received by these railways in September :

	tons	*tons*
Hainan Line	119,906	125,730
Haihang Line	15,254	16,306
Sooka Line	527	1,320
Nanning Line	4,815	3,906

(4) Revenue collected by the four railways during September :

	Freight Charge	*Other Charges*
Hainan Line	$348,485	$52,087
Haihang Line	56,702	12,087
Sooka Line	5,310	1,065
Nanning Line	32,107	4,181
Total revenue for September		$512,024
Total revenue for August		528,052

(5) Kinds of Freight Sent by the four lines :

	September *tons*	*August* *tons*
Coal	5,550	7,155
Lumber	1,620	2,072
Vegetable	3,504	4,480
Fruits	1,724	1,478
Cow	11,626	8,212
Fertilizers	345	3,565
Petroleum	2,603	1,145
Sugar	1,818	2,539
Tobacco	2,838	3,031
Silk	1,905	1,963
Cotton piece goods	3,007	4,181
Paper and stationery	3,277	3,261
Oil	747	1,129
Tea	477	1,745
Cotton	932	705
Beans	3,931	6,397
Rice	17,744	15,019
Cereals	32,031	47,777
Cement	—	2,285

(6) Freight Received by the four lines in September :

	September *tons*	*August* *tons*
Coal	4,680	7,200
Lumber	875	1,280
Vegetables	4,919	4,210
Fruits	4,622	1,589
Cow	10,369	8,103
Fertilizers	1,600	4,028
Petroleum	1,127	1,545
Sugar	1,799	2,474
Wine	1,033	1,434
Tobacco	2,379	2,593
Silk	2,429	849
Cotton piece goods	2,083	2,488
Artificial silk	1,566	55
Paper	2,031	2,652
Oil	1,909	958
Tea	613	1,563
Cotton	1,106	699
Beans	7,699	7,192
Rice	16,306	13,205
Hemp bags	884	1,013
Cereals	15,729	47,278
Cement	1,275	1,235

(7) The freight handled through the different stations and the revenue received by the different stations in September :

Name of Station	*Freight Sent* *tons*	*Freight Received* *tons*	*Revenue Collected* $
Shanghai	2,491	3,381	$25,615
Hakham	19,666	74,097	78,564
Soochow	5,700	5,445	13,883
Wusih	6,004	9,770	24,350
Changchow	7,607	2,992	22,686
Panliu	1,709	5	4,934
Tanyang	3,708	196	10,908
Chinkiang.	7,049	2,466	31,302
Nalungtang	1,995	296	6,137
Nanking .	9,573	12,217	46,197
Nanking Bund	12,030	1,168	35,365
Chinkiang Bund .	14,112	1,008	40,883
Kiangwan	6,228	2,616	25,969
Shanghai South	6,855	165	21,114
Kashing	3,356	2,873	8,005
Yinshanmeng	2,918	2,182	10,413
Hangchow	2,325	6,248	10,655
Chunghwa Meng.	2,468	642	11,008
Tangtu (near Wuhu)	1,560	110	5,998
Wuhu	2,210	3,911	21,336

Our Navy Now and in Prospect

(Continued from page 18)

Although the fleet is the *sine qua non* of sea power it is not the only factor. An adequate merchant marine, a trained reserve, and strategically located bases properly equipped to service the fleet are important elements of sea defense. The Maritime Commission is fast supplying the deficiencies of the merchant marine, having laid down 86 ships totalling over 1,000,000 tons. The trained naval reserve now numbers 14,060 officers and 41,985 men. This compares with 977 officers and 12,407 enlisted militiamen and reserves in service April 6, 1917. In bases we are now deficient. Having a one ocean navy with a two ocean coastline it is necessary to have adequate base facilities in each ocean for the entire fleet. Our dry dock facilities are now being expanded on both coasts and in Hawaii. As mentioned above, additional air and submarine bases are already under construction. But our system of bases is still short of fleet needs as recommended by the Hepburn and previous boards, and a fleet without adequate advanced bases is like a watchdog on a short leash.

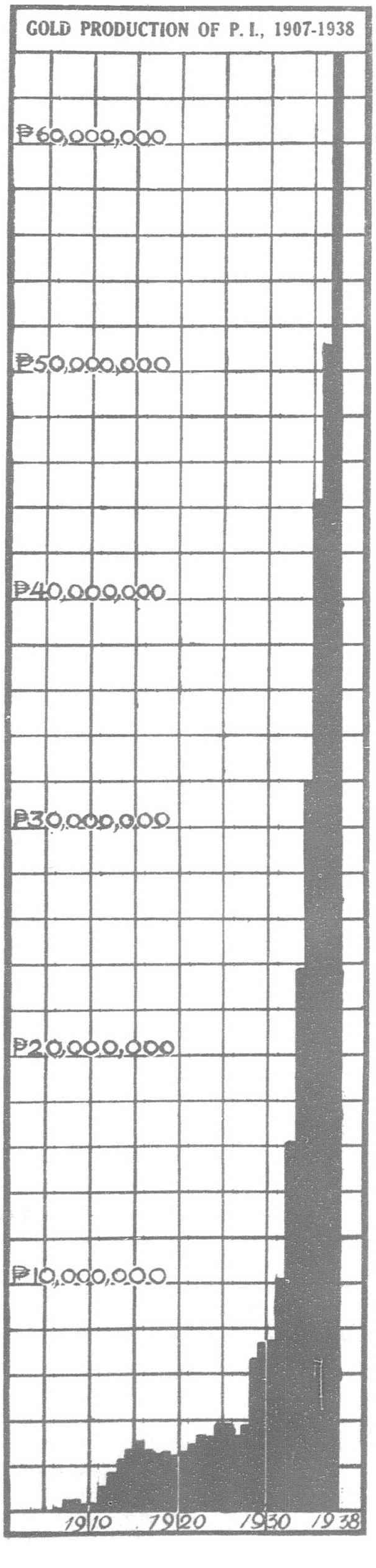
The cold facts as set forth show clearly that we are on our way to the achievement of a Navy that will positively defend this country from aggression ; protect our commerce and our policies, and ensure security for our homeland. May the peace be preserved for us in a war-torn world. May the ends of American diplomacy ever prevail. But should diplomatic negotiations become bankrupt and " first line of peace " break down, then the Navy, the first line of defense, will assuredly be ready.—*Foreign Service Journal.*

Mining Industry of the Philippines

By WM. de CARBONEL

(American Chamber of Commerce Journal)

THE importance of the mining industry to the Philippine Islands can be gathered from the figures recently released by the Chamber of Mines. Previous to 1907 no statistical records can be found regarding productions and costs. To-day mining ranks second only to the sugar industry, which for many years has held first place in the value of exported products. The present trend of both industries indicates that before long, mining will overtake agriculture as the largest exporter.



The rapid development of the mining industry during the last thirty years is shown in the accompanying graph.

In 1908 total mineral production was approximately P.430,000 or less than one per cent of the 1938 production. In 1918 the production had reached P.2,600,000 while in 1928 it rose to P.3,900,000, an increase of 50 per cent. In 1938 the figure reached the impressive sum of P.64,000,000. While it is difficult to believe that the trend will continue to rise as sharply in the future, it is not difficult to foresee that the yearly mineral production will overtake that of sugar, which in 1938 amounted to P.110,000,000.

A part of the mineral production is not included in these figures, this includes all the non-metallics, such as sand, gravel, clay, cement, asphalt, limestones, adobe stone, marble and salt.

Analysing the distribution of the P.64,000,000 which were realized from the sale of minerals and mineral products abroad in 1938, we find that the largest item of expense in mining operations is for machinery, equipment and supplies, almost entirely imported from the United States. Over P.27,500,000 or 43 per cent of the total production was spent on these items.

Dividends paid on mining shares in 1938 amounted to over P.23,000,0000 or almost 36 per cent of the production. It is difficult to determine the percentage of this sum which remained in the Philippines, but it is safe to assume that at least 50 per cent remained thereby increasing the local purchasing powers considerably.

Labor received nearly P.17,000,000 or 26.5 per cent. The daily average wage in the mining industry is the highest in the Islands.

The lumber industry received about P.4,000,000 which represents over 40 per cent of the total lumber produced in 1938. This makes the mining industry the largest consumer of lumber in the Islands.

The government shared heavily in the production from the mines, collections from royalties and as *ad valorem* taxes amounted to P.3,000,000. Over P.2,500,000 was received as income tax and about P.300,000 in other minor revenues, making an aggregate of P.5,800,000 or 7 per cent of the total government income or 9.4 per cent of the total production.

Although the direct beneficiaries of the mining industry are not as numerous as those in the sugar and coconut industries, the money eventually diffuses its benefits throughout the Commonwealth.

The proportion of the total value of mineral production remaining in the Philippines is difficult to determine, but approximations for 1938 may be attempted. The P.17,000,000 share of labor, the P.5,800,000 of the government and most of the P.4,000,000 shared by the lumber industry or a total of P.26,000,000 may be said with a certainty to have remained in the Islands. Of the P.4,000,000 which went to salaries and wages of officers and employees, it is probably safe to assume that at least one half remained in the country, as most of the officers and employees are nationals or permanent residents, while the temporary residents spend at least part of their incomes here.

The estimated income of the mining industry remaining in the Islands may be summarized as follows:

Dividends	P.11,000,000
Labor	17,000,000
Lumber Industry	4,000,000
Taxes	5,800,000
Salaries of officials	2,000,000
Total	P.39,000,000

It is interesting to note the composition of the mineral industry. In 1938, 90 per cent or P.64,623,205 represents gold and silver and the balance of P.7,069,577 is made up of base metal exports. The later industry may be said to be still in its infancy.

The future of the mining industry in the Philippines depends on the following factors:

(1) Governmental attitude regarding control of laws and taxation.
(2) Labor situation.
(3) Development of new mining districts.
(4) Technological advances.

The new laws regarding taxation of mining claims will tend to slow down the practice of companies and individuals taking up and holding large groups of claims without thorough prospecting. It will also tend to discourage prospecting to some extent as fewer claims will be located due to the unwillingness of many prospectors to pay this tax. Too heavy a tax load will naturally cause distress among marginal producers.

Uncertainty regarding the government's future attitude towards the industry has been brought forward recently in discussions regarding the opening up of new properties and the expansion of existing plants.

The laws regarding the investment of cash reserves of mining companies in other mines or new properties, has led to the flight of a certain amount of capital to properties outside of the Philippines. To maintain a continuity of the operation of the present companies the laws should be changed.

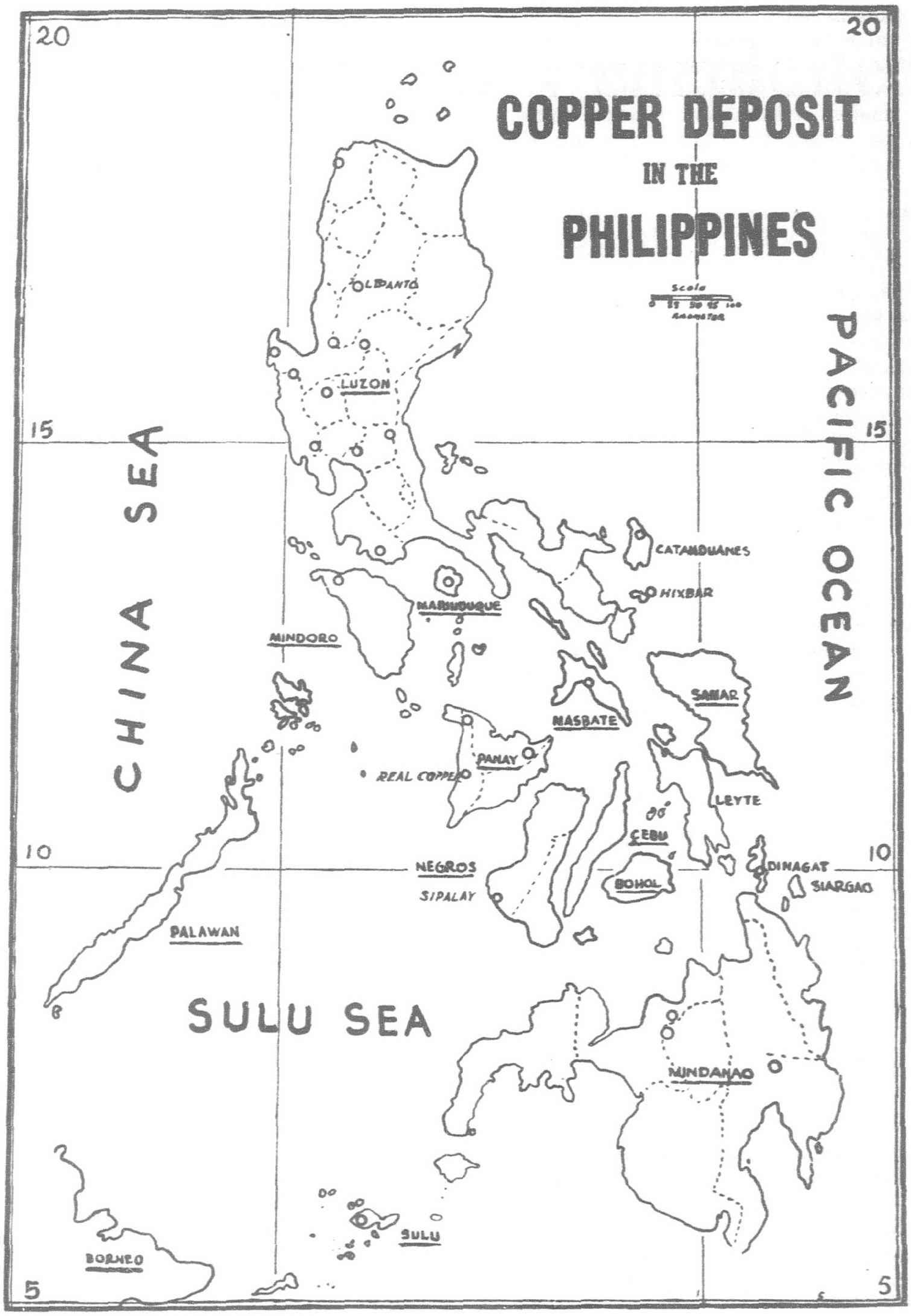
The attitude of labor towards mining has assumed a serious state of affairs. At present mine labor is the highest paid of any labor in the Islands. Most of the agitation has been caused by professional organizers and agitators whose main purpose has been purely selfish. Most of the companies have or are taking steps to improve the lot of their employees by means of physical and social welfare work. A great deal of attention is being given to medical care and examination of workers and their families.

(Continued on page 34)

Prospects Bright for Copper Mining in Philippines

By WM. de CARBONEL

(American Chamber of Commerce Journal)



THE existence of copper in the Philippines was recognized at a very early period by Spanish engineers and other visitors to the Islands. In 1850 a military expedition was sent to the region near Mankayan in Lepanto, Mountain Province, Luzon, to make an investigation of reported copper. Antonio Hernandez, a Government engineer, went with the expedition, made maps and collected specimens. He found that the Igorots had made a number of small pits, excavating the high grade ore which they later smelted in a crude way. The Hernandez report interested the governor to such an extent that steps were taken to carry on mining and smelting on an improved basis. An agreement was made with the Igorots, which resulted in the Cantabro Filipino Company operations. In 1860 production was commenced increasing gradually until 1866, when 234,807 pounds of copper were produced. Up to 1874 the production was about 2,500,000 pounds. The company suspended operations in 1875. Since this time until the present renewal of the mining industry in the Islands, attempts at copper mining have been sporadic.

The renewed interest in mining within the last few years has led to the discovery of many new copper bearing areas, which are shown on the accompanying map. Renewed interest has also been shown in the Mankayan-Lepanto area. The Nielson organization installed an all flotation plant on the Lepanto property in 1937 and at present is shipping concentrates to Japan at a profit, in spite of the heavy transportation charges due to the relative inaccessability of the property.

The production of copper from the Philippines should gradually increase as new properties are found and developed. Many low grade disseminated deposits, similar to the porphyry deposits of the southwestern United States are known to occur, which only await further exploration and development. Some of these prospects show great possibilities for the future.

Other producing mines at the present time together with their productions are shown in Table 1.

TABLE 1

Copper Ore		
Amalgamated Minerals, Inc..	9,393	P120,893.30
Hixbar Gold Mining Co.	2,159.4	80,465.37
Philippine Copper Mines, Inc.	800	8,927.63
Real Copper Mine Agents, Inc.	4,829	83,569.00
E. Lakeros and Co.	35	1,750,00
Total	17,216.4	P295,605.30

The present slow rate of development of the red metal is due to the distance from markets for the product of mines, which is shipped as concentrates from Lepanto, or as crude ore from the other producers.

The ores from the Antique district, on Panay Island, are of interest as the shippers have been receiving a bonus for the sulphur content of their ores, which is very high. This ore is being used for the manufacture of sulphuric acid by the Japanese.

The future of copper in the Islands depends upon the installation of plants capable of producing either matte or blister copper, which could compete in world markets. The by-products obtained from such smelting operations would supply many of the requirements of local agricultural industry in the line of fertilizers and other chemicals.

The large capital investment required for the development and operations connected with the extraction of a suitable product from the large low grade deposits in competition with producers in other parts of the world, together with the distance from those markets is at present the decisive factor in holding back these developments. The expansion of all types of base metal production of the Philippines will lend a greater stability and will in most cases expand the purchasing power of larger and larger groups of people in areas which are at present practically undeveloped and without any industrial or agricultural possibilities.

Copper from the Philippines would compete more with the production from mines outside the boundaries of the United States, than with those within the borders of that country. The Asiatic market can be expected to absorb a great deal more copper during the period of reconstruction, which will undoubtedly follow the present wars, than it has in the past and this should add further value to the copper reserves of the Islands.

A large amount of copper is also recovered from concentrates and bullion produced locally. The Marsman interests, with their smelter at Mambulao produce matte for shipment to the U.S. At the present time this is the only smelter in the Philippines. The total copper production of the Islands is shown in Table 2.

TABLE 2

P.I. COPPER ORE EXPORTS 1935-1938 AND COUNTRIES OF DESTINATION
CRUDE ORE AND CONCENTRATE ONLY

	1935		*1936*	
Countries	*Kgs.*	*Value Pesos*	*Kgs.*	*Value Pesos*
United States	115,431	126,167	1,476	490
Germany	—	—	101	20
Hongkong	—	—	4,459	1,189
Japan	—	—	18	5
British East Indies	—	—	—	—
Totals	115,431	126,167	6,054	1,704

	1937		*1938*	
Countries	*Kgs.*	*Value Pesos*	*Kgs.*	*Value Pesos*
United States	155	240	352	75
Germany	—	—	—	—
Hongkong	—	—	—	—
Japan	15,413,385	656,211	24,199,555	1,283,224
British East Indies	—	—	40	2
Totals	15,413,540	656,451	24,199,947	1,283,201

1938 COPPER EXPORTS TO THE UNITED STATES

Form	*Kgs.*	*Value Pesos*
Copper Bullion	1,639	77,817
Copper Matte	73,615	172,076
From Gold Bullion	1,041,514	465,587

Lepanto Consolidated Mining Co., Nielson, the Islands' largest copper producer

Mining Industry of the Philippines

(Continued fram page 32)

The development of new areas has been extremely slow. To date no areas have been opened up which were not known forty years ago. To be sure mining is carried on at greater depths and on a larger scale and ores which could not be treated profitably in earlier days are now being mined.

The government is at present working on a geological survey of known and producing areas, which work will probably serve as a basis for future exploration. It would appear logical to publish preliminary reports on such work in order to stimulate the development of the areas and to give clues to what should be looked for in unknown areas. The published literature on geology and mineral resources is extremely scarce or out of date. It is only by the dissemination of such information that intelligent prospecting can be carried on.

Governmental agencies such as the Bureau of Mines and the National Development Co. now have crews of geologists and engineers carrying on work in various parts of the Islands, however it seems that it will be some time before this information will become available to the industry at large.

The lack of accurate base and topographic maps is and has been a serious handicap to the entire industry. A great many claim disputes have occurred which are a distinct liability to the industry. This lack of accurate maps could to some extent be alleviated by the making of aerial maps in conjunction with the Army Air Corps in those areas which are so heavily forested or inaccessible as to make ordinary mapping methods too costly.

Technological developments in metallurgy and mining will lead to a tremendous increase in the production of base metals in the Islands. The immense chrome reserves of Zambales depend to a great extent for their development and exploitation on the improvement of metallurgical treatment. At present most of the material is used as a raw material for refractories. New processes are now being developed in the United States and Canada which may allow the use of the ores in the manufactore of ferro chrome alloys.

Tremendous deposits of low grade copper and manganese ores exist in the Philippines, whose exploitation likewise depend upon improved metallurgical processes.

The tremendous iron ore reserves of the Philippines depend upon some method of using the low grade local coals for their most economic development. At the present time almost all the production is being sent to Japanese smelters for treatment. A method of local treatment of these ores locally would put the Philippines in an entirely different economic position in the world affairs.

Plane Plant in Manchuria

Following the transfer of its 50,000 shares of stock to the Manchuria Aircraft Company, the plant and equipment of the Tachikawa Aircraft Manufacturing Company shortly will be moved to Manchoukuo, according to the Nikkan Kogyo.

The purchase price and details of the transaction were not disclosed by the trade journal.

Although established many months ago, the Manchuria Aircraft Manufacturing Company has been slow in organizing and starting production. The recent Nomonhan border incident, however, has convinced Manchoukuo aviation officials of the need for strengthening the country's defenses, particularly in the air. The manufacture of planes and accessories therefore will be spurred in the future.

New Province of Sikang Still Unexploited

By ALFRED MOY

Bordering Szechuen on its east and Yunnan on its south, the triangular shaped Ning District which was only recently merged into the "Baby" Province of Sikang consists of eight counties, of which the most important is Sichang where the Provisional Headquarters of Generalissimo Chiang Kai-shek is located.

The wealth of the Ning District is not confined to its iron ore and other mineral deposits. It also has exceptionally rich soil, fertile pastures and huge forests. Attention to the development of this rich region was first given in 1937 when a special Committee for the Planning of Frontier Administration was organized by the Generalissimo's Headquarter in Sichang.

The Ning District which was the first western frontier region open to the rest of China is to-day populated by 3,000,000 inhabitants 1,000,000 of whom are Hans or Chinese and the other 2,000,000 of whom are Miaos, Lolos, Sifans and members of other tribes. Because of its high altitude which ranges from 1,800 metres to 9,000 metres, it experiences little difference in year-round temperatures—the summers being not too hot and the winters not too cold for comfortable living.

The Ning District is so rich in agricultural production that "a year of sowing and ploughing brings sufficient food for three years," according to a native saying. Rice, Maize, Sweet potatoes, beans, sugar-cane, cotton, flax, peanuts, tobacco, and sesame seed are abundantly produced in summer while rye, barley, peas and rape are the popular winter crops. Every year 1,870,900 piculs of rice is grown. Due to poor communications, surplus rice, sometimes amounting to 300,000 piculs annually, is used mainly to feed hogs. The annual output of rice from the region can be increased to 4,830,000 piculs if modern and intensive farming methods are introduced.

Maize is the chief foodstuff of the tribesmen. A total of 4,600,000 piculs of maize is produced every year. The yield of maize—which is also used for making wine and for feeding animals—may be increased to 10,350,000 piculs if farming methods are improved. Although the cultivation of sweep potatoes is not as extensive as maize, the present annual production which is 3,830,000 piculs may be multiplied threefold by modern farming. The difficulty of introducing new methods of cultivation is that there is already an oversupply of cereals in the region and the increase of the production of food is immaterial to the natives.

The climate of the Ning District is particularly suitable for sugar cane growth. Sugar cane grown there is taller and stouter than that found in the interior provinces. Cotton produced in the Ning District is used for making quilts. Only 720 piculs of cotton are harvested each year. Experts estimate that, if properly guided and promoted, the production of cotton in the District can be increased by more than 50 time its present yield. With the exception of the hot, dry region along the Golden Sand River which flows eastward to the Yangtze River, the larger part of the Ning District is ideal for growing flax, the current production of which is a little more than 20,000 piculs.

There are 114,700,000 fully-grown pines and firs in the territory in addition to an abundant supply of elms, wood oil trees, wax trees, mulberry trees and other trees.

Animal husbandry is the chief occupation of both the Chinese and the tribesmen. Oxen, buffaloes, sheep, pigs, horses, mules and fowl provide the main supplementary income of the people. Salted pork and other meats are shippedi n barrels to the neighboring regions by caraven while bristles are transported on camelback to Yah-an, the leading trading centre of Sikang Province, and to Kunming, capital of Yunnan Province.

The mineral resources that abound in the Ning District include coal, iron, copper, lead, nickel, gold, silver, zinc and salt. Non-metallic minerals such as gypsum, alum, asbestos, graphite clay, sulphur and marble are also found in abundance. A survey has been made of 223 out croppings of mineral deposits. According to their classifications, copper leads with 61 potential mines, coal comes second with 35, followed by gold, iron and lead with 34, 28 and 16 potential mines respectively.

Of the eight counties of the Ning District, three are particularly rich in iron ore deposits. It has been estimated that 8,084,000 tons of ore containing as much as 71.74 per cent of iron are to be found in Hweili county alone which borders North Yunnan Province. Similar deposits are also abundant in adjacent regions. Hweili County is rich in copper and zinc deposits. No less than 3,612,000 tons of copper and 1,680,000 tons of zinc have been discovered in the hills. Seven of the Ning district's eight counties produced 84,217 ounces of gold quartz and alluvial gold in 1936 and 47,387 ounces in the first half of 1937. Salt deposits in Yenyuan County alone are estimated at 27,500,000 tons.

Approximately 75 per cent of the 3,000,000 inhabitants of the Ning District are engaged in farming. Another 11 per cent lead a nomadic life. Industry and commerce are little developed. Salt, sugar, silk and pottery industries are operated on a limited scale while handicrafts thrive only in the more important towns.

Isolated as it may seem, the district may come to the fore in the national reconstruction movement in the not too distant future when the proposed railways and highways linking up the three provinces of Szechwan, Sikang and Yunnan are completed.

Nine months since the founding of Sikang Province in remote West China, significant strides of progress have been made in the work of exploiting the rich resources of the province.

Sikang's resources consist, among other things, of the famous Ya-an (a city close to the Szechwan border) tea, worth $3,000,000 annually, medical herbs, wool and furs valued at $50,000,000 annually, more than 80,000 square kilometers of forests and large areas rich with mineral products.

Prerequisite to the exploitation of these resources is the development of roads in the province. It has been proposed to build three main highways to link this province with Szechwan, Yunnan and Chinghai.

The Szechuen-Sikang highway has been completed as far as Luting, leaving unfinished only a little more than 20 kilometers to Kangting, the provincial capital. When the whole line is completed and open to traffic, it will take only a day to travel from Ya-an to Kangting—a distance which would require seven days by the existing medieval means to transport.

The projected Sikang-Yunnan highway will meet the highway which runs from Kunming, capital of Yunnan, to Wuting near the Sikang border. The survey of the road-bed, which was started in September, 1938, has been completed, and construction of the highway has started. Meantime, the highway to be built to Chinghai is being surveyed.

The program for agricultural and industrial development in Sikang calls for the establishment of a model agricultural station at Ningtai in charge of experts of animal husbandry and veterinary science. The grazing industry is of vital importance and the introduction by the station of scientific cattle raising will be of value.

A bureau for cotton and sericultural improvement has been established at Sichang which, as a first step toward promoting the sericultural industry, has introduced a huge quantity of selected varieties of mulberry seedlings for planting. An afforestation research station at Ya-an is conducting experiments in the growing of tung trees in that district.

Ya-an has become a leading industrial center of the new province. Among the industrial plants that have sprung into existence are a wool textile and a leather tanning factory. Plans are now afoot to establish a power plant and a soap factory.

At Tahsingchang, north-east of Ya-an, a water dam has recently been constructed. This small irrigation system will water land capable of producing more than 10,000 piculs of crops.

China's Cotton Industry Faces Problems

By C. C. WONG

INSTEAD of any increase as expected by the Japanese, the production of cotton in China has decreased during the present year, causing anxiety to Japanese cotton mill owners.

According to latest reports, the four North China provinces this year will produce 1,320,000 piculs of cotton, of which Hopei produces 600,000 piculs, Shantung 500,000 piculs, Honan 160,000 piculs, and Shansi 60,000 piculs, representing a decrease of 580,000 piculs when compared with the first estimate for the current year prior to the flood, of the total production for the present year in the four North China Provinces.

In Central China, the production of cotton for the current year decreased also. According to an investigation in the latter part of August, Kiangsu and Chekiang will produce a total of 1,860,000 piculs of cotton, which is about 20 per cent when compared with the total production of the past year. The following table gives the production figures for 1938 and 1939:

		1939-40	
	1938-39 piculs	*Estimate in July piculs*	*Estimate in Aug. piculs*
South and North markets	729,000	714,000	519,000
Taichang	194,000	407,000	306,000
Tungchow	1,258,000	1,495,000	1,042,000
Total	2,181,000	2,616,000	1,876,000

(*Note.*—South and North markets mean the suburbs of Shanghai).

In addition to the reduced production, the cotton market is facing numerous problems, such as the lack of transportation facilities, the disorder caused by guerillas, the depreciation of the Chinese dollar, the difference of prices in the cotton-producing areas and in the Shanghai market. Before the outbreak of Sino-Japanese war in 1937, the price of Tungchow cotton in the Shanghai market was only $40 but it is around $130 at the present time. The price of Tungchow cotton at the producing area at the present time is only $70.

Need of Imports Foreseen

In the occupied areas, the Japanese are controlling the purchase and transportation of cotton. But it is problematical whether this control will bring the desired results to the Japanese interests because of the peculiar conditions in China.

In the month of September, 40,900 bales of Tungchow cotton were sent to Shanghai and in the first 12 days of October, another 27,200 bales of Tungchow cotton were sent. According to another report, 5,800 bales of cotton were sent to Shanghai in the month of July, 6,400 bales in the month of August (Each bale equals to 120 catties).

Under this situation, it is expected that large quantities of foreign cotton will have to be imported in the coming year, if the Japanese cotton mills expect to operate their mills at full-speed.

In view of the uncertainty of the exchange situation and the difficulty of obtaining sufficient transportation facilities during the time of European war, it is impossible to ship as much foreign cotton to Shanghai as before.

In Shanghai, Japanese cotton mills are operating 1,400,000 spindles of their own and 800,000 spindles formerly owned by Chinese mills. Total consumption of cotton of these spindles is 4,600,000 piculs a year. If 30 per cent of Japanese mills' demand is met by local cotton produced in Central China, Japanese mills will have to import 3,000,000 piculs of foreign cotton. In addition Chinese and British mills will import 1,400,000 piculs.

In North China

In an attempt to lessen the import of raw cotton from England and America, the Japanese are intensifying their efforts to develop the cotton industry in North China, according to the *Chinese-American Daily News*.

North China produces over 6,000,000 tons of cotton annually. When the hostilities, were progressing in North China, cotton production was hampered by financial and currency troubles. Most of Chinese cotton dealers hoarded their goods in the British and French Concessions in Tientsin.

After the fall of Hankow which gave them a breathing spell, the Japanese started to push forth their cotton monopoly plans in earnest. In Hopei and Shantung a number of cotton plants then resumed operations. Nevertheless, due to shortage of products, the prices of cotton reached a high level. Cotton dealers in Tientsin concessions then again resorted to hoarding.

Of late, the Japanese have been tightening their measures of control over cotton trade. They have been purchasing cotton with local currency on the one hand and dumping soya bean in the North China market for exchange of cotton on the other hand.

A conference was recently called by the "Provisional Government" under the instructions of the Japanese military authorities to discuss measures for the development of North China and improvement of the cotton industry.

Japan's cotton control project in North China consists of the following three phases:

(1) Control over cotton industry:

Strict control is being enforced by the Japanese over cotton production and marketing in the North. There are two Japanese-created organs in charge of this task. The "North China Cotton Improvement Society," which was inauguarated early this year, is entrusted with the work of supervising cotton plantations. The society has branches at various cotton-producing cities. Their main task is to direct the growing of cotton and improve cotton seeds.

Following the inauguration of the "North China Cotton Improvement Society," all former cotton industrial organizations in Hopei, Shantung and Shansi have been taken over by the Japanese.

The other Japanese-sponsored supervising organ is the "North China Cotton Association." Founded on April 4 last, the association has established a number of branches in various cotton-producing provinces in the North. With the exception of the Shihchiachwang branch, other branches have not been successful. So far the Japanese have failed to stabilize cotton prices. In Tientsin, the price of cotton has reached the high level of $80 per bale, which is $20 higher than the price fixed by the Association.

(2) Extension of cotton plantations:

The Japanese are reported to have acquired over 400,000 mow of farm land in North China and converted it into cotton plantations. In Tsingho, a village near Peiping, plans are under way for expanding the cotton field to over 2,000 mow. All cultivable lands bordering highways and railways are to be used for growing cotton, according to announced plans.

With the continued expansion of cotton plantations, it is stated, production of foodstuffs have been on the decline. It is estimated that North China only produces 63,060,000 piculs of foodstuffs per annum, and this amount is believed to have now dropped considerably.

(3) Extension of loans:

To encourage cotton production, the Japanese have been giving loans to the growers who have been hit by the war, but the cotton producers remain lukewarm toward the Japanese support.

Cotton Mills in Tientsin

Japanese cotton mills in Tsingtao are operating from 70 to 80 per cent of their total capacity, because of the poor cotton crops this year in North China. Only 263,828 piculs of cotton were sent to Tsingtao in the past twelve months from North China cotton-producing districts, as follows:

	piculs
From September, 1938 to April, 1939	161,831
From April, 1939 to August, 1939	101,997
Total	263,828

During the year from September, 1938 to August, 1939, the Japanese cotton mills in Tsingtao operated 220,000 spindles. As one spindle consumes about 2.4 piculs of cotton, the annual consumption of cotton by the Japanese cotton mills in Tsingtao was 520,009 piculs.

With the installation of more spindles in the Japanese cotton mills (already 170,000 more spindles have been installed), the consumption of cotton by the Tsingtao mills in the coming year will be greatly increased. But with the serious decline of cotton production this year in North China, Japanese mills in Tsingtao are expected to face a more serious problem of cotton supply.

The following table gives the number of spindles for the present year and the next year in North China:

	1939	*1940*
Japanese mills in Tientsin	420,000	589,000
Japanese mills in Tsingtao	220,000	390,000
Mills operated by Japanese Military	223,000	223,000
Total	883,000	1,202.000

As North China mills need 2,884,800 piculs of cotton (calculated on the basis of 2.4 piculs for each spindle) and the Tsingtao mills alone need 936,000 piculs of cotton and as the total production of cotton in the next year will amount to 1,500,009 piculs only, during the next twelve months there will be a serious problem of shortage of supply of native cotton.

Chinese Mills in Shanghai

Since the withdrawal of Chinese troops from the vicinity of Shanghai, fifteen Chinese cotton mills resumed operations in the foreign concessions of Shanghai. Because of the increased price of cotton yarn, these mills made large profits in the year 1938. In the early part of 1939, however, business conditions were not as good as in the previous year because of the large fluctuation of prices of cotton yarn and the heavy depreciation of the value of Chinese legal tender notes.

Prior to the outbreak of hostilities in Shanghai, there were 31 Chinese cotton mills in Shanghai. At present the important ones operating in the foreign concession are:

Sung Sing, No. 2 Cotton Mill, the Sung Sing No. 9 Cotton Mill, the Wing On No. 3 Cotton Mill, the Sin Yu No. 1 Cotton Mill, the Sin Yu No. 2 Cotton Mill, the Hung Chang Cotton Mill, the Ta Tung Cotton Mill, the Tung Yi Cotton Mill, the Ching Fung No. 9 Cotton Mill, the Cheng Chung Cotton Mill, the Hwa Yang Cotton Mill, the Tsung Sin Cotton Mill, the An Ta Cotton Mill, the Sin Sen Cotton Mill, and the Teh Fung Cotton Mill.

These Chinese mills have a total of 446,216 spindles, of which 64,360 spindles were installed after the war began. The total number of spindles of the Chinese mills before the outbreak of war in Shanghai was 1,114,408.

As the cotton yarn market has been dominated by the speculators and the price of foreign cotton has greatly increased following the depreciation of the value of Chinese dollar, the mills are not having such a good business as in the first six months of the current year.

At present, according to a private investigation, the Chinese cotton mills have reduced their working capacity by 30 or 50 per cent.

Answering Ambassador Grew

(Continued from page 10)

decentralize vital establishments and to protect the people by shelters or transfer.

Help for Refugees

In the hearts of all people, East and West, lies the seed of humanitarianism, which is exemplified in the case of Japan by the very extensive organizations existing for the medical treatment of civilians and the feeding of refugees. These measures may not have received their full recognition abroad. They were supplemented, too, by the magnificent work of neutrals. Again I quote Kaifeng where Americans, British and others worked valiantly throughout the battles of Hsuchow to treat and clear the thousands of wounded daily passing along the Lunghai Railway. When the Japanese came into the city they recognized their great charity and assisted them to secure supplies and to continue their operations amongst the refugees.

One historian, in summarizing the air bombardments made these points: That air bombardments of cities is permissible and universal; that the places bombarded by Japan were within the permissible category, with one or two exceptions, like Hsien Hsien, where the damage was negligible; that all buildings bombarded were allowably so; that advance notice was given in many cases, particularly Nanking.

Air bombings have been grossly exaggerated, or hysterically treated, thus profoundly affecting public opinion in open-hearted America, with disproportionate neglect to "play up" such incredible atrocities as the *scorched earth* policy and the cutting of the Yellow River dykes.

The New Order

The anticipated retort is that American opinion, as described by Mr. Grew, was founded on the idea that a state of war did not exist because it was undeclared. This has been adequately answered, for even American military instructions say that "public war is a state of armed hostility between sovereign nations or governments."

With reference to the New Order in East Asia, objection is raised that it constitutes a Japanese monopoly. And that it envisages the obstruction of free trade and the open door. Against this is the definite and reiterated promise of the Japanese government that treaty rights and foreign interests would be respected. Such affirmations are emphasized in the Konoye declaration, which so profoundly impressed Wang Ching-wei that he is building a government on its foundations. We have to remember, though, that the war is not yet over. Certain measures have been deemed militarily necessary, even in the far north, now far removed from the zone of conflict.

Americans object to the restraints. The Japanese Army has even a stronger claim to continuation of emergency measures, which is the right of defending and consolidating for peace the regions already occupied which serve as a supply background for the armies of the south-west, and for the forces dealing with guerillas in Shansi. The imposition of a new currency was a normal procedure, which has its counterpart in the American civil war. The Army and the civilian organizers saw grave danger in the existence of an "enemy" currency throughout the north, especially where such paper had no bullion backing in the country, the silver having been exported to foreign parts. Surely it is unique that a national treasure should be kept outside the country and, although pledged to support its currency promises, was used for the purchase of materials.

Mr. Grew, finally, has mentioned resentment at the violation of treaty rights. We can pass over the contention that the key to these treaties was the Sino-British war which secured the opening of China to foreign trade. Other nations availed themselves of the advantages of the Treaty of Nanking to present similar treaties. Students may ask themselves if such treaties were, in truth, bilateral, or actually imposed on China. Of greater importance than a treaty, however, is a nation's duty to itself. Treaties run their course and exhaust their usefulness, although many of their features are preserved for inclusion in succeeding treaties. There is a move on foot to revise treaties in keeping with modern conditions. Even the Kuomintang, before this war, used treaty revision as a cornerstone of its foreign policy.

Future treaties will, whilst respecting the New Order in East Asia, and Chinese national feeling, be best constructed if they embrace such features as will bring about what Mr. Grew is working for, a better understanding between Japan and China on a basis of respect for the changed conditions in this Continent. In other words *equal treaties.*

Waterworks and Power Plants in Central China

(Continued from page 26)

Capitalized at $25,000,000, the Central China Waterworks and Power Plant Corporation, has its head office at North Szechuen Road, Shanghai, with branches in all the important cities of central China. Of the total capital, the property of the Chinese waterworks and power plants is estimated to be $15,000,000, constituting the Chinese share of the corporation. The Japanese authorities subscribed the remaining $10,000,000 in cash.

Mineral Resources of the South Sea Countries

(Bulletin of The South Sea Association)

In the South Seas there is a remarkable difference between the northern parts of the Continent and the islands lying in the south in the development of their strata. In short, upper palæozoic strata are found in vast areas in French Indo-China, Thai, Burma and the Malay Peninsula, while granite of the Triassic Period, which has intruded into these strata, is exposed on the surface almost everywhere, causing contact metamorphison by degrees.

Similar strata are found in the southern and central parts of Borneo, as well as in the east of New Guinea. On the other hand, tertiary strata are distributed abundantly, mostly covering granite, on the southern islands of the South Seas. Intruding into the tertiary strata, volcanic rock is found especially abundantly in Java, Sumatra and Celebes.

Needless to say, there exists a close connection between mineral resources and geology. But the latter need not be discussed in detail here. Wherever granite is found in the southern countries, tin is always produced. This item holds first place among the mineral products of the South Seas, occupying nearly 60 per cent of the entire world output. Against the world production of 177,700 metric tons, the South Seas' output amounted to no less than 113,500 tons in 1936:

TABLE I.—PRODUCTION OF TIN (1936)

Countries	*(In metric tons)*
French Indo-China	1,900
Thai	12,900
British North Borneo	16,700
Netherlands Indies	31,000

In the South Sea countries, the new tertiary strata also contain a great deal of petroleum, which at present is produced in large quantities in the Netherlands Indies, Sarawak, Brunei and Burma. Their total production in 1936 is given in Table II. In the Philippine Islands, New Guinea and some other places, there are many promising oil-fields yet undeveloped:

TABLE II.—PRODUCTION OF OIL (1936)

Countries	*(In metric tons)*
Netherlands Indies	6,347,000
Sarawak and Brunei	660,000
Burma	957,000
Total	7,964,000
Percentage to world production	3.2%

The old tertiary strata in northern French Indo-China and in the South Sea regions contain large quantities of coal. At present coal is produced in French Indo-China, the Netherlands Indies, the Philippine Islands and British Malaya, its deposits being estimated at 356,000,000 and 60,000,000 metric tons in the Netherlands Indies and the Philippines respectively. The latest output of these territories is shown in Table III:

TABLE III.—PRODUCTION OF COAL (1936)

Countries	*(In metric tons)*
French Indo-China	2,070,000
British Malaya	503,000
Netherlands Indies	1,147,000
Total	3,720,000
Percentage to world production	0.3%

Iron ore exists in the aureole lying between palæozoic stratum and granite, or in the residual deposits resulting from dissolution of old volcanic rock. The estimated potential iron production is respectively over 500 million, over 1,000 million and over 200 million in the Philippines, the Netherlands East Indies and British Malaya. The countries in actual operation at present, however, are the Philippines, French Indo-China and British Malaya, the Netherlands East Indies not having commenced production yet:

TABLE IV.—PRODUCTION OF IRON (1935, 1936)

Countries	*(In metric tons)*
Philippine Islands	283,310 (1935)
British Malaya	1,612,309 (1936)
French Indo-China	10,017 (..)
Total	1,905,636

Gold is produced from the mineral veins of tertiary volcanic rock, or as alluvial gold, which also is due to the same lode. The total 1936 output was 18,600 kg. in the Philippines, 204 kg. in French Indo-China, 1,199 kg. in British Malaya, 888 kg. in Sarawak (1935) and 2,229 kg. in the Netherlands East Indies, the grand total amounting to 23,120 kg. or nearly 2.2 per cent of the world production of 1,050,000 kg.

Tungsten is produced in large quantities as it is deposited together with tin in palæozoic strata, reaching nearly ten per cent of the world output. As a matter of fact, in 1934 French Indo-China produced 182 metric tons, Thai produced 22, British Malaya 1,174 and the Netherlands Indies 2, the grand total amounting to 1,380 metric tons while the world production was 10,388, the ratio between them being 13 per cent.

The general condition of mineral production in the South Seas has been stated above briefly. Below is given a survey of the principal mineral resources of British Malaya, Burma, Thai, French Indo-China, the Netherlands Indies and the Philippines.

British Malaya

Tin—The Malay Peninsula is rich in rocky strata of the Ancient Period, and coal rock of the Coal Period and granite that invaded into the coal rock during the latter half of the Triassic Period are abundantly found. Tin is deposited in the contact zone between limestone and granite, which is the ore-begetter of tin. Tin also exists in pegmatite as a mineral tube in the greisen zone of granite, or as grit in the alluvium over limestone. This kind of tin deposit is found not only in Malaya, but also in the Netherlands Indies and French Indo-China.

In the Malay Peninsula there are two zones from which tin is produced. They run lengthwise on the eastern and western sides of the peninsula almost parallel with its mountain ranges. Nearly 72 tin mines are in operation in the western zone, among which the principal mines are in the Kinta Valley district on the upper Perak River, the Molangor district of Selangor Province, the district stretching from Ulu Selangor to Bentong in the same province and the Negri Sembilan district. In the eastern zone there are some 29 mines. The Pahang Consolidated Co.'s mine situated in north-east Pahang Province is the greatest tin mine in the world, while there are also big mineral veins in Kemaman, in southern Trengganu Province.

The Malay Peninsula is the largest tin-producing land. Its output occupies 80 per cent of the entire world production when added to that of Bolivia of South America. The development of the tin-mining industry in Malaya in its earliest period owed much to the skill and diligence of Chinese laborers, and about 80 per cent of the production was indeed due to their labor until 1912. They have almost exhausted the greater part of the grit deposits, where the tin ore is dug out easily. In recent years, machine power employed by the Europeans has gradually taken the place of the primitive method of the Chinese and their position has been reversed, European laborers occupying 66 per cent of the entire labor engaged in tin-mining. Table V shows the latest status of production:

TABLE V.—PRODUCTION OF TIN AND PERCENTAGE TO WORLD PRODUCTION

(In metric tons)

Year	*Production of the Federated Malay States*	*Production of the world*	*Percentage to world production*
1934	36,385	107,706	33.78%
1935	40,749	139,053	29.30%

(In piculs)

Year	*Perak Province*	*Selangor Province*	*Negri Sembilan Province*	*Pahang Province*	
1934	339,407	167,004	16,465	24,236	(In piculs)
	38,830,883	19,101,320	1,885,856	2,775,417	(In dollars)
1935	420,800	213,179	21,482	29,761	(In piculs)
	64,785,792	23,719,949	2,396,063	3,223,620	(In dollars)

Tungsten—As already stated, tungsten is deposited side by side with tin in granite or as grit deposit within alluvium, so that generally tungsten is produced wherever tin exists. The principal sites of production are the Bukit Kati mine of Kedah Province, the Dungun and the Chendar mines of Trengganu Province, the Bukit Rembilan district and the Ampang and Pulai districts of Perak Province, Ulu Klang, Ulu Langat, Ulu Kanching of Selangor Province and Kanching and the Toti district of Negri Sembilan. Since 1934 the Kramat Pulai Ltd., of Perak Province, has been exploiting the bed rich in scheelite on an extensive scale and is now producing annually 1,300 metric tons of tungsten.

TABLE IV.—PRODUCTION OF TUNGSTEN

(In metric tons)

Year	*Manganese scheelite*	*Scheelite*
1934	29	1,580
1935	80	1,430

Gold—The gold-mining zone extends from north to south along the spinal mountain range of the peninsula. The gold vein lies within the volcanic rock invading the palæozoic strata, while alluvial gold is found within the alluvium lying along the banks of the rivers springing from these palæozoic strata. The Raub district of Pahang Province is most famous and the Raub Australian Gold Mining Co. had an annual output of 610,000 ounces until 1935. The Tomoh district in the north of Thailand produces 4,000 ounces each year. Table VII gives the annual output of gold in recent years :

TABLE VII.—PRODUCTION OF GOLD

(In ounces)

Year	*Raub gold mine*	*Total production of the Federated Malay States*
1934	24,310	30,221
1935	22,909	29,771

Iron—Iron ore is produced in Bukit Medan in western Johore Province and in the vicinity of Kemaman, Trengganu Province, both being hematite or oligist iron deposited in the residual bed. All the mining enterprises in these districts are operated by Japanese companies. Among others, the Ishihara Industrial Co. is engaged in the exploitation of iron ore and manganese and the Japan Mining Co. carries on its operation in Trengganu Province, where the ore exploited contains 64 per cent of iron. Figures on annual production are given in Table VIII :

TABLE VIII.—PRODUCTION OF IRON

(In metric tons)

Year	*Johore Province*	*Trengganu Province*
1934	578,180	557,467
1935	594,887	817,334
1936	575,714	1,036,433

Burma

Burma may be divided into two parts in accordance with the geological development of the land. While the eastern region, with its border along a line that runs from north to south passing through Mandalay and the part of Malaya which belongs to Burma, is composed of the Ancient Period strata, the western part consists of chalkbeds and the tertiary strata of the New Period. The principal mineral products are petroleum, tin and precious stones. Petroleum is contained in the New Period strata, while the two other resources are found in the rocky strata of the Ancient Period.

Petroleum—The oil-fields in Burma are divided into two zones, one extending nearly 400 miles from north to south in the plains stretching along the River Irrawaddy and the other extending along the Arakan seashore of Bengal Bay, stretching beyond the Arakan Yoma Mountains. The Akyab oil-fields, which belong to the latter zone, are situated on Borange Island and contain several wells of a depth of about 300 feet. There is another oil area along the coast, that is, the Kyaukpyu oil-fields south of Akyab, the depth of the wells here being 50 to 60 feet.

The so-called Burma oil-producing zone stretching over the valley on the left-hand side of the upper Irrawaddy River contains limestone and lime gravel rock of the Pegu Series from which oil is extracted. There are other important fields in the vicinity of Minbu, on the middle course of the river, and in the district south of it. Table IX giving the amounts of oil production shows that in 1935 the total output jumped to 7,181,000 barrels and in the following year to 7,657,000 barrels :

TABLE IX.—PRODUCTION OF OIL

(In gallons)

Districts	*1918*
Akyab	10,821
Kyaukpyu	46,598
Yenangyaung (The middle Irrawaddy River)	203,638,043
Singu (South Minbu)	61,035,972
Yenangyat (The lower Irrawaddy River)	4,739,587
Upper Irrawaddy	473,800
Minbu	4,826,735
Total	274,834,556

Tin—As in British Malaya, tin production in this country accompanies that of tungsten. The exploitation of tin is carried on mostly by Chinese and the Thai people. There are four centers of production : the Mergui, the Tavoy, the Karenni and the Thaton districts, the former two being the most important. The Mergui district is in the southern part of the country, where there are steep mountainous regions rich in granite. There are over 20 mines in this district, where tin is produced in large quantities from the alluvium at the base of the mountains.

In the Tavoy district, extending between Tavoy and the River Tavoy, there are many tin mines where tungsten is also produced. The annual average tin ore production between 1914 and 1918 was 10,367 lbs. in Mergui, 10,983 lbs. in Tavoy and 2,165 lbs. in Thaton. The estimated total amounts were 5,575 lbs. in 1934 and 4,750 lbs. in 1935.

Precious stones—Burma has been known throughout the world since olden times as a country of precious stones. Among them, the principal gems are nephrite, tourmaline and viridine.

Above all, the rubies are most famous for their superior quality. They are produced at three mines situated in the Mandalay district in the center of the country, the Myitkyina district in the north and another place 90 miles north of the Mandalay district. The rubies are found, together with sapphires and spinels in the clay filling up caves consisting of limstone or marble in the contact zone between the granite and limstone strata. The total production in 1919 was 88,847 carats, 87,434 lbs. of rubies, 47,286 carats, 20,170 lbs. of sapphires and 22,444 carats, 483 lbs. of spinels. Nephrite is deposited in the volcanic rock invading serpentine in the northern parts of the country. Its annual production was between 81,659 and 91,456 lbs. around 1917.

Thai

Such metal products as tin, tungsten, antimony, gold and copper, and non-metalic products such as coal, sapphires, rubies and zircons are the principal mineral yields of Thailand. At present, however, tin, tungsten and gold alone have a real economical value.

A vast area of the country, excepting parts of Malaya and their northern extension, is covered with the miocene strata protruding from the sea-bottom, while the basin of the River Menam abounds in alluvium. These miocene strata are very poor in mineral resources. The rest of the country, however, is rich in them and tin, tungsten and gold are chiefly produced.

Tin—Tin is mainly produced in Puket Province, on the western coast, its output occupying nearly 70 per cent of the country's entire production. Puket Island has hitherto been the center of tin production in Thailand, though it seems to be on the decline now. On the other hand, Nakorn Sritammarat Province, in the central part of the peninsula, is increasing its production gradually.

Next comes the Patani district at the southern end of the eastern coast. Table X gives figures of production according to places with percentage to world production :

TABLE X.—PRODUCTION OF TIN BY PROVINCES AND PERCENTAGE TO WORLD PRODUCTION

(In metric tons)

Year	*Puket*	*Nakorn Sritammarat*	*Rajaburi*	*Total*	*Percentage*
1932-33	7,700	2,537	64	10,300	2.9%
1933-34	8,172	2,929	160	11,261	8.3%
1934-35	—	—	—	9,900	7.2%

Gold—Alluvial gold is collected by the Thai people and Chinese from the alluvium that abundantly lies along the banks of rivers. The production of gold has been very small, but of late a gold bed has been discovered in the Patani district bordering on British Malaya, and during the four months from January to April, 1936, 151 kg. of gold was produced from this district, giving ample promise for the future.

French Indo-China

The mineral areas of this country are mostly covered with palæozoic strata and granite that has invaded into the former. These palæozoic strata have changed into mica-schist or gneiss in Tongking and Annam. Alluvium is abundantly deposited in Tongking and in the valley of the Rouge River near Hanoi. The principal mineral products are coal, tin and zinc.

Coal—Coal is the most important product of the land and its quality is of superior anthracite. The amount of production reaches 70 or 80 per cent of the entire mineral output and since 1930 anthracite has occupied 96 to even 98 per cent of the total production of coal. Coal is most abundantly produced in the Hongay coal-fields extending along the seashore north of Tongking. This coal is known as Hongay coal and its production occupies 60 to 70 per cent of the total amount of anthracite mined in French Indo-China. Its calorific power is 7,800 to 8,300 calories, with only 3.7 per cent of ash. This coal is widely used for steamships and men-of-war on account of its superior quality. Nearly half the total production is exported to Japan. The annual production of the Hongay coal-fields amounted to 1,554,100 tons in 1934 and to 1,741,900 tons in the following year. Besides anthracite, pitch and brown coals are also produced in Tongking but the amount is very small.

Tin—Tin production has remarkably increased in recent years. Pia-Ouac in Tongking and the Nam-Pateinu district of Laos are the principal centers. The production of tin ore was 2,359 metric tons in 1935 and 2,416 metric tons in the following year.

Tungsten—This mineral is produced together with tin from the alluvial strata, its amount having been 250 metric tons in 1935.

Zinc—Zinc is produced in Tongking alone, where there are four mines within the contact zone of limestone and granite: Trang-Da, Lang Hit, Cho Dien and Yenlinh. The total production was 61,933 metric tons in 1926, which was the peak, and then gradually less to 11,000 tons in 1936.

The Netherlands East Indies

This country consists of numerous islands and the geological structure of each somewhat differs from the other ; consequently the mineral resources of the country are greatly varied. Sumatra, Java and Borneo, where tertiary strata are abundantly found, are rich in coal and petroleum, while in Bangka, Billiton, Singkep and part of Sumatra, where the palæozoic strata abound, tin is produced side by side with tungsten. On the whole, tin and coal are the most important mineral resources of the land. Next in importance are gold, silver, copper, manganese and bauxite, all of which are being exploited at present. Besides, iron and nickel are richly deposited ready to be mined in the future.

Petroleum—The synclinal stratum running southwards from Burma down under the sea rises the land again in Sumatra, Java and Borneo, which are covered with sandstone and limestone of the new tertiary strata. Petroleum is richly deposited within these strata.

The oil-fields of Sumatra, which stretch along the island's northeastern coast may be divided into two parts, the north and the south. The southern fields, which extend over Palembang and Jambi Provinces, are at present exceedingly prosperous, heading all the other fields in the Dutch territory. Oil-wells are well distributed both in the lowland and in the highland. There are five wells in the highland, that is : Talang Akar, Pendopo, Brakat, Moeara Enim and Soeban Djerigi. In the lowland, there is the Babat oil-field on the middle course of the Moesi River. Of these six oil-fields, the Pendopo and Soeban Djerigi fields have the largest capacity and since 1934 the production of the country, due to increased output at these two places, has come to surpass that of Borneo, which used to hold first place in the Far East. The Jambi oil-field is divided into 44 sections, most of which are situated in a zone stretching south of the Batang Hari River. The northern fields are at Perak, Atjeh Province ; Telaga-Said, on the eastern seashore, and Alu Bay, all of which have shown a tremendous increase in their production in recent years.

In Borneo oil is deposited along the entire eastern coast, the zone extending from the Barito River in the south to the border of British North Borneo in the north. The oil-fields in actual operation at present are the Louise, Dalem, Moeara and Sambodja fields (which form the central region of the Sanga-Sanga fields to the south of Samarinda), the Pamsian oil-field in Tarakan Island and another field in Bunju Island north of Tarakan Island.

In Java, the oil-fields are situated in a district extending along the northwestern coast from Soerabaya, while those at Blora, Soerabaya, Bodjonegoro and Semarang are also in actual operation now, the first three producing oil in larger quantities. Details are given in Table XI :

TABLE XI.—PRODUCTION OF OIL BY DISTRICTS

(In metric tons)

Districts	*1935*	*1936*
Central Java	174,248	498,999
Eastern Java..	290,485	
Palembang	2,493,900	2,761,711
Jambi	375,695	663,054
East Sumatra Coast..	187,205	141,615
Atjeh	702,206	548,330
Southeastern Borneo	1,815,998	1,773,545
Ceram Island..	41,948	54,564
Total	6,081,685	6,437,818

Coal—The old tertiary strata contain oil abundantly and these strata are distributed principally over the islands in the west, containing sandstone and conglomerate. The coal-fields in Sumatra are found in the Padang district of the western coast and the Palembang district in the east, deposit coal of the former being estimated at 193 million metric tons with an area of 10 km. (north-south) by 9 km. (east-west) divided into three parts and with seams of more than 10 meters. Table XII gives production according to districts :

TABLE XII.—PRODUCTION OF COAL

(In metric tons)

Coal mines	*1935*	*1936*
Ombilin coal mine (Padang district)	376,684	400,900
Bukit Asem mine (Palembang district) ..	313,862	338,292
Total	690,546	739,282

The coal-fields of Palembang Province are situated in a region some 12 km. to the south-west of Moeara Enim. Their deposit coal is estimated at 1,800 million metric tons with seams of 12, 6, 5 and 3 meters. The coal is of superior quality and is used by warships.

Borneo is rich in coal, which is found especially in the south-eastern parts of the island. The Rautau Panjang coal-field, in the basin of the River Perau, is in operation and its annual production amounted to 263,000 metric tons in 1935 and to 253,400 tons in the following year.

Tin—Tin is produced in Singkep, Bangka and Billiton Islands, which are an extensions of Malaya, as well as along the western coast. In each of these islands lie the same strata as those of Malaya, forming gravel beds. The total production of these districts ranks third in the world as shown in Table XIII :

TABLE XIII.—PRODUCTION OF TIN

(In metric tons)

Districts	*1935*	*1936*
Bangka	10,838	18,225
Billiton	9,058	10,958
Syngkep..	1,531	2,047
Total	21,427	31,263

Gold and silver—These metals are produced from the mineral veins of andeside and rhyolite in Sumatra and in the eastern and the western regions of Borneo, the former producing the major quantity of both. Total production was 2,122 kg. of gold and 21,825 kg. of silver in 1935, and 122 kg. of gold and 26,764 kg. of silver in the following year.

Bauxite—The principal production center is Bintang Island of the Rhio Archipelago to the south-east of Singapore. Most of the product is exported to Germany and Japan. Total production was 16,708 metric tons in 1935 and 150,337 tons in the following year.

Iron—This metal is not exploited yet in the Netherlands East Indies. The iron sand buried in the southern seashore of Java is estimated to total 35 million metric tons with an average iron content of 57 per cent.

British North Borneo, Sarawak, Etc.

In regard to British North Borneo, Sarawak, Brunei and Portuguese Timor it is not necessary to give details, as the mineral resources of these districts, generally speaking, are rather poor. British North Borneo contains coal and gold. Sarawak produced petroleum, the Miri oil-field on the northern coast occupying third place in the Far East, having produced 688,424 metric tons in 1930 and 353,714 in 1935. Brunei also produces oil which is deposited in the district near Sarawak, and in 1935 exported 441,744 metric tons of crude oil and 464,703,913 square feet of natural gas. Timor is extremely poor in mineral resources and only small amounts of alluvial gold and petroleum are produced.

The Philippine Islands

These islands are mostly composed of tertiary strata with plenty of volcanic rock which has invaded the strata. Under the strata are found granite and gneiss of the Ancient Period. Gold, iron, chrome and manganese are richly deposited in the volcanic rock and coal is buried in the tertiary strata.

Gold—This is produced from the beds in the Masbate and Benguet districts, while alluvial gold is gathered in the Camarines district. The output amounted to 39,318 pesos in 1934 and to 449,133 pesos in 1935.

Iron—Next to gold in importance is iron, which is widely deposited on all the islands. The iron buried in Surigao, northern Mindanao, is estimated to aggregate 500 million metric tons. Most of the iron produced is exported to Japan. For instance, the amount exported to Japan was 7,239 metric tons in 1934 and 283,310 tons in 1935.

Coal—Coal is produced in all the islands in small quantities but its quality is inferior. The total coal deposits are estimated at 60 million metric tons. The principal districts are Cebu Island and Mindanao Island.

Britain's New World Cycling Champions

Two young Britons—a 21 year old ex-typist, and a Yorkshireman have recently made world cycling history. Their exploits have given world-wide prominence to British cycle achievements.

Marguerite Wilson—the blonde bombshell of the roads—is the first woman in the world to have shattered six national records right off the reel—the 50 miles, the London to Brighton and back, the London to Portsmouth and back, the London to York, the Liverpool to Edinburgh, and the 12 hours. But the charming Miss Marguerite is no amazon. After 250 miles in the saddle she looks as fresh and fit as if she had just finished a morning's shopping in Bond Street.

" Shake " Earnshaw—his nickname comes from his habit of riding with his head on one side and shaking it from time to time as he eats up the miles—is another discovery who has just broken three of the most difficult official men's records on the books of the governing body, the Road Records Association. Within six weeks he has pulverized the 50 miles, the Edinburgh to Liverpool, and London to Portsmouth and back figures. In the 50 miles he reached a speed of 33 miles per hour, which means that he has cycled faster unpaced on the road than any other living person.

Both these young people are members of the road-record team sponsored by the famous Hercules cycle company, who turn out more cycles than any other firm in the world and have just produced their six millionth machine. Miss Wilson's and Earnshaw's records were all-British, for they rode cycles made entirely at the firm's huge factories at Birmingham, England.

Probably Miss Wilson's finest feat was to cover the 138 miles from London to Portsmouth and back in only 42 minutes more than the famous Australian, Hubert Opperman. She followed this up with breaking five other British women's unpaced road cycle records in as many weeks. Miss Wilson is a member of the famous team of road record breakers sponsored by the Hercules cycle firm of Birmingham, England. The lessons learnt from their record achievements go into the design and construction of the cycles that this famous British firm ship to nearly every country in the world.

Records and Hercules go together this year. The firm and its founder, Sir Edmund Crane—genius of the British cycle industry—are at present celebrating the production of their six millionth cycle.

Cycling sport has been booming in Great Britain. Unpaced record attempts on the ordinary road, especially, seem to have caught the imagination of Britain's ten million cyclists.

There are fifteen men's records of this kind officially recognized by the governing body, the Road Records Association —ranging from 50 to 1,000 miles—and seven of them have been broken in recent weeks. They are the 50 miles, the London to Portsmouth and back (138 miles), the London to Liverpool (200 miles), the London to Bath and back (210 miles), the Edinburgh to Liverpool (211 miles), the Edinburgh to London (383 miles) and the 24 hours (468½ miles).

The stamina of the record breakers is astonishing. Their average speeds—up hill and down dale, hour after hour—vary from nearly 20 m.p.h. in the 24 hours to over 30 m.p.h. in the 50 miles.

All the above record-breaking this season has been the work of members of the team sponsored by Hercules, largest cycle makers in the world.

The names of these public idols are " Shake " Earnshaw, " Heppy " Heppleston and Richard Kemps. Their road-burning exploits have earned them honored places among the great cyclists of all time.

Record breaking cyclists of the Hercules Cycle Company's Team. Left to right they are : Richard Kemps, Harry " Shake " Earnshaw, Marguerite Wilson, Celestin Riga and Cyril Heppleston

Engineering Notes

SHIPPING

FIVE NEW SHIPS.—The Barber Lines announced in New York in January that effective January 25 the line would introduce five new twin-screw motorships to the New York-Far East service, replacing five "Tai" type motorships employed on the run during recent years.

NEW LUXURY LINERS.—Stiff competition between Japanese, American and Canadian shipping interests for domination in the Pacific was foreseen as the Nippon Yusen Kaisha announced that three new luxury liners, now under construction, would be placed on the San Francisco-Yokohama route.

NEW OIL TANKER.—With appropriate ceremonies, the Shinkoku Maru, an oil tanker of the Kobe Wharf Company, was launched on December 13 at the Kawasaki Heavy Industry Company yard. The ship is a Diesel motor tanker of 10,100 tons which will be capable of a speed of 19 knots. The tanker is expected to be completed in February.

BIG NEW LINER.—Keel-laying ceremonies for Japan's biggest liner, the 27,000-ton Izumo Maru were held at the Kawasaki Dockyard at Kobe in November.

The huge namesake of the world-famous flagship of the Japanese China Seas Fleet will be 218 meters long, with a 26.7 meter beam and a draft of 13.9 meters. She will join the Japan-California service of the Nippon Yusen Kaisha in 1942. Equipped with steam turbines, unlike the present trio of crack N.Y.K. trans-pacific liners, the vessel will have a contract speed of 24 knots.

NEW SHIP CONCERN.—The tentatively-named Japan Sea Maritime Transport Company will begin operations in November with a capital of Y50,000,000, and will control Japanese shipping in the Japan Sea with 11 ships.

Six of the vessels the company will begin operations with will be transferred from the Nippon Kisen Kaisha, four from the Dairen Kisen Kaisha and one from the Chosen Yushen Kaisha.

The new firm will operate ships on the Niigata-North Korea, Fushiki-North Korea, Tsuruga-Vladivostok and the Tsuruga-North Korea shipping routes.

AILSA CRAIG DIESEL.—Squadron Leader G. Francis of the Royal Air Force has ordered an Ailsa Craig Ricardo Diesel Engine of 20-30 h.p. fitted with 2-1 reduction gear for installation in his yacht *Ma On Shan* now lying at Singapore.

The boat is 41-ft. 6-in. L.W.L., 13-ft. 3-in. beam and 9-ft. draft. Her speed was four knots in flat calm with the 12/24 h.p. petrol engine previously used.

The new machinery is to be fitted with a three blade propeller 22-in. diameter as a side installation and a speed of 5½ knots is anticipated.

NEW T. K. K. VESSELS.—Twelve passenger and freight vessels totaling 44,144 tons are being built for the Tao Kaiun Kaisha for its shipping services between Japan and China and along the China coast, the Japanese press reports.

Since its formation, the new shipping firm has taken over 59 vessels totaling 152,095 tons from other companies.

The transfers were: Eleven ships from the Nippon Yusen Kaisha; six from the Kinkai Yusen Kaisha; 17 from the Osaka Shosen Kaisha; 17 from the Nisshin Kisen Kaisha; three from the Mitsui Bussan; two from the Awa Kyodo Kisen Kaisha, and one each from the Harada Kisen Kaisha, the Kawasaki Kisen Kaisha and the Okasaki Unyu Kaisha.

AMERICAN SHIP LINE.—The Puget Sound district court on October 25 assured that another American flag line will sail the Pacific to the Orient.

Federal Judge John G. Bowen confirmed the reorganization of the American Mail Line and simultaneously empowered the directors of the company to sell to ss. *President Madison* to a Manila merchant, Sr. Jose Cojuangco, for $350,000.

Sr. Cojuangco's agent said the ship probably would be used to transport sugar from the Philippines to the Pacific coast of the United States and to New York.

Mr. H. E. Warner, American Mail Line trustee, said the line's remaining four ships would be traded to the Federal Maritime Commission for temporary vessels. The line envisages eventual purchase of modern vessels from the Maritime Commission.

RAILWAYS

KUNMING-HAIPHONG LINE.—Passenger service on the railway between Kunming (Yunnanfu) and Haiphong, Indo-China, has been resumed after a disruption of ten days due to damage caused to a portion of the tracks by torrential rains. Freight service is, however, still suspended.

LUNGHAI LINE REOPENS.—With the Ahu-Hsinpu section, 61.9 kilometers, and the Hsinpu-Tapu section, 20.8 kilometers, completely repaired by Japanese troops and the North China Communications Company, the entire eastern line except the Hsinpu-Lienyuchiang section of the Lunghai Railway has been reopened to traffic.

It is expected that the resumption of traffic on the eastern Lunghai Railway will contribute greatly to economic development in the area along the line, as well as to the restoration of peace and order.

NEW TRUNK LINE.—At a Cabinet meeting the Japanese Railway Minister Ryutaro Nagai announced that his office intends to materialize plans for constructing a new trunk line between Tokyo and Shimonoseki as soon as possible in view of increasing congestion on the current facilities caused by the increasing traffic between Japan and the Continent.

With regard to the plan of increasing the transportation capacity available from the Tokaido Line between Tokyo and Kobe and the Sanyo Line between Kobe and Shimonoseki, the Railway Trunk Line has decided to initiate a broad-gauge railway between Tokyo and Shimonoseki.

CHINESE RAILWAY.—The newly-completed railway connecting Kweilin, capital of Kwangsi, in China with Liuchow, a strategic city in South Kwangsi, will be formally opened for passenger and freight traffic on December 15, according to the "Central Daily News," official organ of the Chinese Government.

So far, a railway has only been operating between Hengyang and Kweilin, while transportation on the section between Kweilin and Liuchow has been relying on motor-trucks on the highway, which is inadequate for transportation of large numbers of troops and supplies.

TO ELECTRIFY LINES.—Work is being begun in Japan by the Railway Ministry on the electrification of the Hachioji-Haramachida line in Tokyo Prefecture, the Osaka-Sakurajima line in Osaka Prefecture, and the Maibara-Tsuruga line in Shiga Prefecture, according to Domei.

The electrification of the 12-mile Hachioji-Haramachida line is expected to be accomplished at a cost of Y500,000 while the 5-mile Osaka-Sakurajima line is expected to be electrified at half that amount. Both lines are scheduled to have electric trains running on them before the end of the year.

The 30-mile stretch between Maibara in Shiga Prefecture near Lake Biwa and Tsuruga in Fukui Prefecture will require an estimated Y3,300,000 for its electrification. Work is not expected to be completed before the middle of 1942.

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